S. Hrg. 98-1197

STATUS OF AIR TRAFFIC CONTROL SYSTEM

HEARING

BEFORE THE

SUBCOMMITTEE ON AVIATION

OF THE

COMMITTEE ON COMMERCE, SCIENCE,
AND TRANSPORTATION
UNITED STATES SENATE

NINETY-EIGHTH CONGRESS

SECOND SESSION

ON

STATUS OF AIR TRAFFIC CONTROL SYSTEM

OCTOBER 1, 1984

Serial No. 98-114

Printed for the use of the
Committee on Commerce, Science, and Transportation

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON : 1985

40-733 O

S261-20

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

BOB PACKWOOD, Oregon, *Chairman*

BARRY GOLDWATER, Arizona
JOHN C. DANFORTH, Missouri
NANCY LANDON KASSEBAUM, Kansas
LARRY PRESSLER, South Dakota
SLADE GORTON, Washington
TED STEVENS, Alaska
BOB KASTEN, Wisconsin
PAUL S. TRIBLE, Jr., Virginia

ERNEST F. HOLLINGS, South Carolina
RUSSELL B. LONG, Louisiana
DANIEL K. INOUYE, Hawaii
WENDELL H. FORD, Kentucky
DONALD W. RIEGLE, Jr., Michigan
J. JAMES EXON, Nebraska
HOWELL HEFLIN, Alabama
FRANK R. LAUTENBERG, New Jersey

Gerald J. Kovach, *Chief Counsel*
Ralph B. Everett, *Minority Chief Counsel*

Subcommittee on Aviation

NANCY LANDON KASSEBAUM, Kansas, *Chairman*

BARRY GOLDWATER, Arizona
JOHN C. DANFORTH, Missouri
TED STEVENS, Alaska
PAUL S. TRIBLE, Jr., Virginia

J. JAMES EXON, Nebraska
DANIEL K. INOUYE, Hawaii
WENDELL H. FORD, Kentucky
FRANK R. LAUTENBERG, New Jersey

CONTENTS

Page

Opening statement by Senator Kassebaum 1

Opening statement by Senator Lautenberg 7

LIST OF WITNESSES

Baker, John, president, Aircraft Owners & Pilots Association 46
  Prepared statement 51
Burian, Lawrence L., president, National Air Transportation Association 57
  Prepared statement 59
Duffy, Henry, president, Air Line Pilots Association; accompanied by Jack Howell 79
  Prepared statement 81
Eads, Gary, president, U.S. Air Traffic Controllers Organization 75
Engen, Hon. Donald D., Administrator, Federal Aviation Administration, Department of Transportation; accompanied by Raymond Van Vuren, Associate Administrator for Air Traffic 2
  Prepared statement 24
Goldman, Patricia, Vice Chairman, National Transportation Safety Board; accompanied by David Kelly; and Michael O'Rourke 27
  Letter of October 26, 1984 40
  Prepared statement 41
Hitchcock, Cornish F., legal director, and D. Michael Hancock, director, Aviation Consumer Action Project 85
  Prepared statement 88
Humphrey, Hon. Gordon J., U.S. Senator from New Hampshire 2
Ignatius, Paul, president, Air Transportation Association 68
  Prepared statement 73
Stimpson, Edward W., president, General Aviation Manufacturers Association 53
  Prepared statement 55

ADDITIONAL ARTICLES, LETTERS, AND STATEMENTS

National Business Aircraft Association, Inc., statement 96

STATUS OF AIR TRAFFIC CONTROL SYSTEM

MONDAY, OCTOBER 1, 1984

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
SUBCOMMITTEE ON AVIATION,
Washington, DC.

The subcommittee met, pursuant to notice, at 2:05 p.m., in room 328-A, Russell Senate Office Building, Hon. Nancy Kassebaum (chairman of the subcommittee) presiding.

Staff members assigned to this hearing: Chuck Doyle, staff counsel, and Steve Palmer, minority staff counsel.

OPENING STATEMENT BY SENATOR KASSEBAUM

Senator KASSEBAUM. The hearing will come to order.

I would certainly like to express my appreciation for the witnesses who are attending today, and to Senator Humphrey for his great interest in this subject. As a former pilot, I look forward to his comments in this area of great interest to him. He will also have a statement before we begin, and join with me in questioning the witnesses.

The topic of today's hearing is the current operational status of the air traffic control system. I would like to make it clear that this hearing is not being held in a crisis context. I do not see any increased safety problems in the system today. I believe that Admiral Engen is doing an excellent job in both safely and sensitively managing an extremely complex operation.

This hearing is just to assess where we are today and how Congress can help to avoid problems that may arise in the future. Just because we do discuss safety concerns does not mean that the sky is about to fall. An ounce of prevention is worth a pound of cure, and I think it helps us all better to assess the current situation by having various participants who can bring the skillful knowledge that our witnesses do today.

My apologies also, let me say, for the crowded conditions of the hearing room. It is very warm, I know, but let me say that it feels kind of good after sitting in my office which is like a refrigerator. My apologies for such conditions.

Senator Humphrey.

STATEMENT OF HON. GORDON J. HUMPHREY, U.S. SENATOR FROM NEW HAMPSHIRE

Senator **Humphrey**. Thank you, Madam Chairman. I want to thank you and members of the committee for convening this important and timely hearing to review the progress of rebuilding the capacity of the air traffic control system, and to review current operations and plans for future growth to handle the traffic in years to come. I appreciate your willingness, Madam Chairman, to permit me to participate in these proceedings although I am not a member of the committee.

As a former airline pilot for 10 years, and now as one who flies as a passenger back and forth from New Hampshire every weekend, I have had a great deal of experience at both ends of jetliners; not only that, but with the air traffic control system, and its delays. I look forward to today's testimony to explore the problems which are being encountered. Having a continuing interest in the safety of the airways, I have recently met with pilots and controllers in my State to listen to their concerns.

Administrator Engen recently testified that delays for the first 7 months of 1984 are up 80 percent over the same period last year. This naturally causes the public and, therefore, the Congress to look closely at ways to alleviate congestion and to move air travellers more efficiently, while retaining the utmost concern for safety.

The subcommittee has assembled, I note, leaders from all areas of the industry, and I look forward to working with them, you, and members of the committee on this important issue.

Senator **Kassebaum**. Thank you very much.

Our first witness is the Honorable Don Engen, Administrator of the Federal Aviation Administration.

STATEMENT OF HON. DONALD D. ENGEN, ADMINISTRATOR, FEDERAL AVIATION ADMINISTRATION, DEPARTMENT OF TRANSPORTATION, ACCOMPANIED BY RAYMOND VAN VUREN, ASSOCIATE ADMINISTRATOR FOR AIR TRAFFIC

Admiral **Engen**. Thank you very much, Madam Chairman, and Senator Humphrey. I am pleased to appear before you today to discuss the state of the air traffic control system and our continuing plans to improve that system.

I take a strong and personal interest in the operation of the air traffic control system. In addition to daily reports I receive on the system performance, I continue to visit our field facilities where I have spoken with and have listened to literally thousands of our working controllers. I have heard their concerns, and taken their suggestions and comments back with me to Washington.

Last month, I visited Boston, New York, Kansas City, Los Angeles, and Fort Worth Centers. Each month, I also visit towers, and terminal radar approach control facilities across the Nation. My visits have confirmed the reports that I receive daily that the air traffic control system is indeed operating safely.

The system is still recovering, but it is healthy and ready to meet the challenge of increased traffic loads which have been brought about by our Nation's economic recovery. Cooperation between the FAA and user groups is high, and working together we are continuing to improve upon the U.S. aviation system which I believe is already the best in the world.

We are now handling in the air traffic control system, on average, 106 percent of the traffic nationwide that we handled in July of 1981, the highest traffic month prior to the strike. In staffing, we are currently at 91 percent of our goal of 6,627 operational controllers at terminals, and 83 percent of our goal of 5,085 operational controllers in en route centers. There are 1,904 controllers in various stages of training in the developmental pipeline. The need for overtime has continued to go down, and we expect further reductions in overtime as we reach our staffing goals. I am personally monitoring our performance in this respect, to place proper emphasis on reaching these goals.

Yesterday I flew from Los Angeles to Washington. I continue to fly and to assess our system. I listen to the quality of air traffic control as it applies to me and to others as I fly along, and my personal opinion is that quality is high.

Data show that the quality of the system is continuing to improve. Those near midair collisions which have been confirmed have gone down steadily from 568 in 1980, a year before the strike, to 286 last year, and are at 205 as of September 28, 1984. The vast majority of these incidents have involved at least one aircraft not controlled by the air traffic control system.

We have implemented new operational error detection software in our air traffic control centers. We have also developed a system to classify operational errors by their severity. Of the 1,188 operational errors detected in the en route centers so far this year, 88 percent were minor, 11 percent moderate, and less than 1 percent were major. We now place more emphasis on positive approaches to improved performance and less emphasis on disciplinary action in relation to those operational errors.

Delays for the first 8 months of 1984 were up 85 percent over those for the same period last year. There are a variety of reasons for this, and we are addressing these causes. The recent airline scheduling agreements and the fact that more controllers are becoming qualified will help reduce aircraft delays this winter. We have also met with a number of general aviation groups who have indicated a desire to do what they can in order to help the situation.

Let me add that the FAA has no intention of excluding any segment of aviation from any airport or airspace on either a short or a long term basis as a means of reducing delays. The answer to the delay problem requires the concerted effort of all segments of the aviation community.

Fairness dictates that one segment should not shoulder more than its fair share of the burden in trying to solve the problem. We have received excellent cooperation from all segments of the user community, and we believe this cooperative effort will prove successful in overcoming the recent delay problem.

In conclusion, Madam Chairman, I would say again that our air traffic control system is operating well. There are improvements that need to be made, but the system continues to operate at a high level of safety for the traveling public.

I have with me this afternoon Mr. Ray Van Vuren, my Associate Administrator for Air Traffic, and I would be very pleased to address any questions that you may have at this time.

Senator KASSEBAUM. Thank you very much.

I would like to welcome Senator Exon, who I think just flew in from Nebraska. Do you have any opening statement you would like to make?

Senator EXON. It is a very, very sad Monday.

Senator KASSEBAUM. Nebraska lost.

Let me say, as an alumna of Kansas University who is usually on the losing end of Nebraska, I am kind of delighted.

Senator EXON. You won't be next month.

Senator KASSEBAUM. Do you have an opening statement?

Senator EXON. I have no opening statement.

Senator KASSEBAUM. Admiral Engen, you mentioned that the vast majority of near misses involve, I think you said, at least one VFR aircraft. What specifically do you think could be better interface between the VFR and the IFR aircraft?

Is this a problem and, if so, what suggestion would you make?

Admiral ENGEN. I think one near midair collision is one too many, and everyone agrees with that. So we try to deal with near midair collisions wherever they are.

Fully more than 90 percent of the midair collisions occur in airspace outside the air traffic control system, so let me address that first, if I can, Madam Chairman.

I called a meeting of all the user groups in August, and we talked about the midair collision problem. We addressed see and avoid, or see and be seen, if you will, and trying to raise the level of interest of every pilot flying in the United States in preventing midair collisions. It is working, the AOPA, GAMA, ALPA, and NBAA and the other organizations are using their house organs to help raise the consciousness of people to the fact that we need to see and avoid in the airspace.

In the air traffic control system where pilots rely upon ground control to assure their safe separation, it is very important that we look very critically at areas like boundaries of TCAS because it is in places such as that that we see VFR traffic and IFR traffic. I think that this is an area that we are all very alert to, and one in which all of our traffic controllers have been advised to be extra specially alert.

Any time that a positive control space impinges on an area that is not under positive control is an area that we should look at, and look at seriously.

Senator KASSEBAUM. I understand that an air traffic control system error occurred yesterday involving Air Force Two. Could you explain what happened in that particular incident?

Admiral ENGEN. Yes. Let me say that I can explain what I know at this point. It is being investigated at this point in time and what I say may have to be modified somewhat as we get deeper into it.

Basically speaking, at 5:58 central daylight time yesterday, a Cessna 310 was flying level at 13,000 feet and proceeding southeast bound. It was indeed radar identified and was being worked by the Cleveland Center. Air Force Two was cleared to 11,000 feet by the terminal departure controller. Air Force Two contacted Cleveland

Center leaving 8,000. At this time, Air Force Two was about 15 miles behind the Cessna 310. The Cleveland controller cleared Air Force Two to flight level 230, which would be 10,000 above 13,000 feet, expecting him to pass behind the Cessna and come out above him.

When the Air Force Two data block showed 11,500 feet, the controller cleared Air Force Two to maintain 12,000 feet. He responded that he had already left 12,200 feet but would return to 12,000 feet. He went back down to 12,000 feet. They passed about three-quarters of a mile in horizontal separation and about, we think, 500 feet altitude separation. It was not in the definition of a near midair collision, but it was that close.

The controller was a 25-year veteran, full performance level qualified. There were only four airplanes on the frequency at that time. It was duly noted, and the pilots were apprised of the situation, and then each went on his way. Basically, that is what happened yesterday afternoon.

Senator **Exon**. May I ask one question?

Senator **Kassebaum**. Senator Exon.

Senator **Exon**. What are you saying? Was no one at fault?

Admiral **Engen**. No.

Senator **Exon**. Was the traffic controller at fault? Were the pilots at fault, or were all of them at fault?

Admiral **Engen**. At this point, Senator Exon, we are trying to gather the facts. Rather than give fault any place, it just happened yesterday afternoon. We go into this in great depth. I was just giving you the facts as I understand them, and I would prefer not to assess fault or blame at this point in time, I would really like to look at it. It is under investigation right now.

Senator **Exon**. Just let me say this. I think that we ought not to underplay or downplay what I happen to consider a potentially very, very serious situation. I know that you feel that way because you are the man in charge. When I hear that this is just another factor, but since it was Air Force Two. If it was not Air Force Two, we might not have heard.

Admiral **Engen**. Yes, sir, we would have.

Senator **Kassebaum**. Yes, we would have.

Senator **Exon**. Not this soon.

Senator **Kassebaum**. We might not be focusing on it quite this much today, but it is something that is followed very closely.

Senator **Exon**. I just wanted to make that point. I will ask some more questions later on.

I guess what I am afraid of is that we are falling into a pattern where these things happen every day. The fact is that we have a whole lot more traffic in the air today, and therefore, these are the things that we have to put up with. The fact that we have more traffic in the air today just shows that we have to do more and be more efficient. This will require stricter interpretation of the rules by the air controllers, the pilots, and the airlines.

I compliment you for bringing about what I think are significant changes by getting the airlines together to ferret out some of this business of everybody landing at one airport at the same time. I congratulate you for that. I think you were an instrumental part of that.

I think we have further to go in this area, and I will be glad to follow up on it later, Madam Chairman. I apologize for interrrupting.

Admiral Engen. May I respond?

Senator Kassebaum. Please.

Admiral Engen. I would like to assure you, Senator Exon, that we look at each one of these things constructively to learn what we can from them. Each situation offers a chance to improve. I would like to assure you, sir, that regardless of what airplanes are involved, we do look at each one trying to prevent another one.

Senator Kassebaum. Maybe I missed something, so could you explain. Did you say that they cleared Air Force Two to a certain level, and then they were assigned to come back down and maintain a steady course?

Admiral Engen. Yes.

Senator Exon. Do you know yet why?

Admiral Engen. I can read between the lines and give you an interpretation. Again, this is my interpretation.

You will recall I said that the Air Force Two was 15 miles behind the Cessna 310 and climbing. He did not climb fast enough for the controller to feel that he did in fact have good separation. So the controller, in monitoring it, had him come back to hold 12,000 feet to ensure that there was 1,000-foot separation. It was a developing situation. Once again, Madam Chairman, I will be glad to provide a full report to the committee.

Senator Exon. Once again, as I understand it, then, if I understand your latest explanation, in this particular case the air traffic controller did absolutely the right thing. In other words, if it was a developing situation in this particular case, the air traffic controller was the one who spotted it and corrected it. Is that your point?

Admiral Engen. I don't want to pass an evaluation on the air traffic controller or the pilots at this point, Senator. I would really like to look very carefully at it.

Senator Kassebaum. One other question before I move on.

What specific morale problems—we have heard quite a bit about the morale problem, particularly in the busiest centers—would you foresee in bringing back some of the dismissed controllers?

Would this aggravate conditions, or do you believe that under certain circumstances it could be handled? Do you think that this would be a breach of faith with the new controllers that have already been hired?

Admiral Engen. We have felt all along, Madam Chairman, that we have enough people in the air traffic control system pipeline to reach those levels that are my goals for 1984 and 1985, the 14,306 that we seek as our goal. Today I am at about 13,400 controllers, some 900 short of my goal. Most of those people are already recruited and signed up to get me to that level. So I have the numbers in the pipeline.

If I were to bring back controllers that had been dismissed as a result of the strike in 1981, as I travel about these United States, the senior controllers working the boards and the people in the centers tell me to a person that this would create a great amount of ill-will within the centers. It is enough of a feeling that it is a great bother to me.

We are trying to restructure the air traffic control personnel in a way that we are moving onward and upward. We are almost there. If I were to bring those controllers back into the system now, I truly don't need them at this point in time, and indeed I would probably have to spend somewhere between 5 and 8 months to train them, to bring them up to speed. They have been out of the system for 3 years.

Senator **Kassebaum** Senator Goldwater, do you have any statements you would like to make?

Senator **Goldwater**. No. I am sorry I was late, Madam Chairman, but I did get in on the tailend of this so-called near-miss. I think it might be a good idea to establish some definition of a near-miss because the press likes to call two airplanes in the same county a near-miss.

One of the problems we have here, you have a 135 climbing between 250 and 300 knots, and you have a Cessna 310 climbing at about 120. If you get into the situation on landing, you have a 135 coming in at about 170 and a 310 at 110. So it is a problem that you and I know exist in every clearance where we involve a military aircraft of any kind and a civilian aircraft.

Frankly, maybe I am too old, but I don't think that 500 feet apart and three quarters of a mile is a near-miss. I have had some that would scare the living hell out of you, and they were closer than that. I think we ought to establish what is a near-miss so the press can have a little better idea of what they are writing about.

Admiral **Engen**. Thank you, Senator.

The definition we use for what we would call a critical near-midair collision is two airplanes that pass within 100 feet of each other. A near-midair collision by definition is when any two aircraft come within 500 feet either vertically or horizontally. Indeed, three-quarters of a mile and 500 feet is not in our definition of a near-midair collision.

Senator **Kassebaum**. It is a pleasure to welcome Senator Lautenberg and Senator Ford. Do either of you have comments that you want to make? If not, I think that it is time to ask questions.

Senator **Lautenberg**. I have a few opening comments.

Senator **Kassebaum**. Senator Lautenberg.

OPENING STATEMENT BY SENATOR LAUTENBERG

Senator **Lautenberg**. Thank you, Madam Chairman. I am sorry that I am late. The airport delay this afternoon, I am sorry to say, was caused a little bit by weather.

On the serious side, today, I understand, we are hearing testimony on the subject of great importance to the traveling public and that is the ability of the air traffic control system to cope with increased demand for air travel. I have had a chance to meet with Administrator Engen to discuss my concerns about the recent FAA proposed rulemaking designed to eliminate with delays at our major airports. We have three of those airports in our immediate area, and there is considerable concern in my State of New Jersey about the impact the FAA actions will have on our State's travelers and on Newark Airport, particularly. It is critical to our State to have that transportation hub functioning as efficiently as it can.

On August 31, I joined other members of the New Jersey congressional delegation in voicing concern about restricting flights at Newark and elsewhere. It was our opinion that other less anticompetitive options should have been explored by the FAA prior to taking such action.

Recently, the airlines came to an agreement on a plan of their own, worked out under a grant of antitrust immunity, which I approved of. This agreement is likely to result in curbing airport delays, which is something that might have happened anyway, however, with the end of summer travel.

Whatever the outcome, we must understand that the airlines, under threat of FAA direct intervention, acted in a protective manner. The airlines were forced to reveal information such as future scheduling plans, which under normal competitive circumstances they may not have made known to their competitors.

I strongly support the goal of curbing airport delays. However, I am very much concerned that the means used to achieve that end may have had effects which were not fully anticipated or appreciated.

Whether the issue is safety, or convenience to the public, I think there is no alternative but to get the air traffic control system back to the pre-strike level of expertise. Administrator Engen has explained to me that he is doing whatever he can to achieve this end, and I want to help him.

In this vein, I have suggested to him, privately and publicly, that he reconsider the rehiring of the controllers fired in 1981, on a case by case basis. In turn, he has expressed to me his concern that management problems could flow from such a decision.

I acknowledge that a challenge to FAA management could be posed by this suggestion. Nonetheless, I continue to feel that this step would be a most expeditious and economical means of moving back to pre-strike capacity. Last year, the DOT appropriations bill in the House carried language which would allow the FAA, at its discretion, to return fired air traffic controllers to the "reinstatement eligible list. '

While I don't want to force management problems on the FAA, I do believe that the agency must consider selective rehiring, shortening the time span for training, and get the system up to snuff.

I look forward, Madam Chairman, to discussing these and other issues with our witnesses today. Thank you very much.

Senator **Kassebaum**. Thank you.

Senator Ford do you have an opening statement?

Senator **Ford**. I have no opening statement, Madam Chairman.

Senator **Kassebaum**. Thank you.

Senator Exon, do you have questions?

Senator **Exon**. In your opening comments, maybe I heard them wrong, but I believe that I heard you say that all planes were not under the control of air controllers. Certainly all planes are under the control of air traffic controllers, other than those that don't have such facilities, isn't that correct?

Admiral **Engen**. Yes and no, Senator. If I could, in the air traffic control system, it is a positive control system which embodies all of the major airports. Most of the airports in the United States are within air traffic control areas, and then there are positive control areas leading up to the floor of the United States positive control area which begins at 12,500 feet and then goes upward.

There are a great number of airplanes that fly daily that are not under anyone's control, mostly in rural areas, Alaska, and Montana, but also a lot in the State of New York.

Senator **Exon**. But isn't it in the rural areas, such as Alaska and Montana, where we are having a high percent of near-midair collisions? Am I right?

Admiral **Engen**. No, sir. If I could come down to the actual midair collisions, 90 percent of the midair collisions are outside of controlled airspace. Usually, it is two pilots flying with clean skies and 15 miles visibility, like as not, they are very experienced pilots, or one of them will be a very experienced pilot, and it is around an airport, generally between 1,000 and 5,000 feet. They could be around an uncontrolled airport which has no tower. That is the profile of a midair collision.

Senator **Exon**. I am not a pilot, but I have flown a lot up front with the pilots, and I have always heard that they switch from the Chicago to the Denver area, if they are operating under instrument flight rules. The only place where you have airplanes not under the control of air traffic controllers would be planes flying at a relatively low altitude, certainly not commercial airlines.

Admiral **Engen**. All commercial airlines are under positive control.

Senator **Exon**. What percentage of noncommercial airlines are under positive control?

Admiral **Engen**. Let me take 100,000 movements and say that about 29 percent of 100,000 movements would be in the IFR system. Let me give you the right figures, please.

Senator **Exon**. While you are looking that up, then, let's follow up on your statement of a while ago. Are you telling the committee that most of the near-misses are not under the control of air traffic controllers?

Admiral **Engen**. No, sir, I didn't say that. I said that 90 percent of the midair collisions involved at least one airplane not under positive control.

Senator **Exon**. You could have one under positive control and one not, and they would have the same potential.

Admiral **Engen**. It is possible, yes, sir.

Senator **Exon**. Isn't that what we had in that famous San Diego midair collision a few years ago?

Admiral **Engen**. Yes, it is, but that was in a positive control area.

The number of airplanes that are in the positive control space being controlled are air carriers, 38 percent, air taxi, 16 percent, general aviation, 29 percent, military aviation, 16 percent. That is in the positive control space. There are a lot of airplanes out there that are flying outside that airspace.

Incidentally, when I talked about 100,000 movements, we are talking about an increasing phenomenon because prior to the strike we had just 3 days when we had 100,000 movements in 1 day within the air traffic control system. Since January 1 of this year, we have had 27 days where we have exceeded 100,000 movements within the air traffic control system, and 11 of those days were during the month of August. It kind of gives you a feeling for how the traffic volume is coming up.

Senator EXON. That leads to my next question, and then I will be glad to yield, because there are others who wish to ask questions.

I believe you said that you don't think we need more controllers now. Did you say that?

Admiral ENGEN. I said that I have enough people in the system right now that it will bring me to my level of 14,306 controllers. I have roughly 900 that need to be put through the academy at Oklahoma City. I have 13,400 people in the air traffic control system now.

Senator EXON. How many people, compared with that, were in the system the day before the strike?

Admiral ENGEN. 16,375.

Senator EXON. So you are telling me that we had roughly 3,000 more controllers the day before the strike than we have now, and yet, you say that we have enough. What did we have as of yesterday?

Admiral ENGEN. Exactly 13,552.

Senator EXON. That obviously can't be enough, then, can it, with the increased traffic that you just cited?

Admiral ENGEN. We have some apples and oranges here. Let me explain it, please.

Prior to the strike, the average controller worked 4 to 4½ hours on an 8-hour shift. Today, the average controller is working 6 to 6½ hours, and that is by design.

Senator EXON. Is that too much?

Admiral ENGEN. No, it is not too much because that is a fair amount out of an 8-hour shift, and the rest of the time is spent in breaks, or it could be in training. We have gotten ahold of our work time better and we are doing better with fewer people, plus the fact that we have new software patches improving the ability of one person to control more aircraft over a given period of time.

The system is coming along. The equipment is getting better. We are working our controllers more hours out of an 8-hour shift. That is why we can operate with fewer controllers than we had before the strike.

Senator EXON. Without, in your opinion, sacrificing efficiency?

Admiral ENGEN. Without sacrificing efficiency.

I have to give you the full picture. I have roughly 1,900 developmental controllers right now. Each one is sitting out there and it will take him or her 2 years on the boards to become qualified. They can indeed control traffic, but they must be backed up by a fully qualified controller.

This is what is driving our overtime problem, which we do have, and we are trying to get a handle on. As we train those developmental controllers, it takes a fully qualified backup and probably a supervisor as well to watch both of them. That is what is driving our overtime problem.

Senator EXON. Thank you, Madam Chairman.

Senator KASSEBAUM. Senator Goldwater.

Senator GOLDWATER. I have no questions, Madam Chairman, because I got in late, but I would comment that I think your controllers are far, far better qualified than they were before the strike.

The betterment of equipment has eased the eye strain and the mental strain of looking at those blue tubes for so long, so they are able to work 6 hours a day instead of working as they used to, maybe 4 out of the 8.

Admiral **Engen**. Yes, sir.

Senator **Goldwater**. Only one comment I have, and it relates to airports like Washington National. I think we should, if we could, draw up minimum standards for any future airport development, either reconstruction or new.

For example, had we built two parallel runways at Washington National, the traffic problem out there would not be solved necessarily, but—I remember when that came up, and I argued my head off to just extend Runway 36 and 15 out into the Potomac and make them 10,000- or 12,000-foot runways, I even caught hell from airline pilots, but that should have been done. To my thinking, Dulles is the only standard national airport in this country that meets all the qualifications.

Admiral **Engen**. And Dallas-Fort Worth.

Senator **Goldwater**. In your moments as head of this outfit, I would give serious consideration to requiring all airports to modernize, to stop trying to get runways into the wind regardless, and to make adequate in width and strength to handle any airplane, because we are going to see an increase in air travel, not a decrease.

I don't know frankly today how some of our airports are ever going to be able to handle, including some of our most famous. O'Hare is one of the worst airports in the world. Los Angeles International is pretty good with two parallel runways. San Francisco is in pretty good shape except that it is like landing on a cobblestone street. I could go down the list, as you could, too.

I would merely urge you as one interested in aviation, let's get our airports up to standards that will handle instrument landing situations with the tightest quality and a allow a good flow of visual flight operations.

As you say there are a lot of airplanes flying out there that fly out of somebody's backyard or some road, and it is pretty hard to control a fellow that doesn't have a radio, that doesn't have a transponder. As long as you have a man sitting up there, or a woman, with brains—I say that advisedly—you are going to have accidents. There is no way to beat it.

This is all I have, Madam Chairman.

Admiral **Engen**. If I may, the Senator touched on a very key issue, and I thank him for his wisdom.

The airport problem is indeed one of the major problems of these United States. As I have said before, we have not built a major airport since Dallas-Fort Worth, which was completed 10 years ago. It is indeed one of our biggest problems. The airport is every bit as much of the system as the en route structure is. So we are giving a lot of consideration and thought to the points that the Senator raised.

Senator **Kassebaum**. Senator Lautenberg.

Senator **Lautenberg**. Thank you. Madam Chairman.

Trying just to press on onward and upward, we hope. Is the job of air traffic controller a stressful job?

Admiral ENGEN. Stress is a very difficult thing to measure. There are a lot of stressful jobs out there, and I think air traffic control is certainly categorized as a stressful job and it is one that we are doing our level best to ease stress in, yes, sir.

Senator LAUTENBERG. When we have a 50-percent increase in hours worked, which is the number you used.

Admiral ENGEN. Yes, sir.

Senator LAUTENBERG. That is because of new software patches and software programs, better equipment. Senator Goldwater talked about some of the visual strain that has been introduced. That would still leave you with roughly an increase equivalent to several thousand more controllers as a result of this longer workweek.

Admiral ENGEN. It is not a longer workweek, sir, it is more hours in an 8-hour period of time.

Senator LAUTENBERG. Do they work less days?

Admiral ENGEN. No.

Senator LAUTENBERG. So it is a longer workweek. It doesn't matter whether it is a 4- or 5-day workweek, it is still more hours.

Admiral ENGEN. OK.

Senator LAUTENBERG. I am not talking about a technicality, am I?

Admiral ENGEN. I understand.

Senator LAUTENBERG. I think that is pretty basic, but the question that it leaves me with is a concern about the 900 people in the pipeline that are ready to train, and yet, you don't feel that any of those controllers who were terminated, who have paid the price for their collective misdeed, unlike a felon—this may be repetitious, but forgive me—unlike the felon who has paid the price for his or her misdeed, who gets welcomed back someplace along the line, supposedly, and can perform their function.

These people have paid the price. I am not asking anybody to return the union. I am talking about individuals. It doesn't matter what they did before, or what kind of a character association they had.

You don't find enough people out there qualified to accelerate the process, to get the system up to what you agree is a more efficient number. Am I correct in my assumptions?

Admiral ENGEN. I think you are.

Senator LAUTENBERG. You know what I am getting to anyway.

What I am trying to get to is, I think you may even have used the words in your last testimony, not to rob our country of a chance for some economic recovery, good competition out there, airline rates coming down.

Unfortunately, in the process of deregulation, States like Senator Exon's and others have been short-changed and we have to work on that. The fact of the matter is that we can harm terribly. I am not talking so much about the cost to the airlines, but rather, what is the cost of business, generally, what is the cost to our Government, and what is the cost to our society as a whole. I hear you say, and we have had very friendly discussions, and this is intended to be a friendly discussion, about this.

I come from a technological background, and I can't figure out when you have a pool of people who have training, who have paid whatever dues they had to pay—I shouldn't use that word. They have paid the price for their union's misdeed, why can't they come back into the system and say, "OK, bygones are bygones. We have a larger mission ahead of us. It is not punishment. The objective is to get the system working."

You told me that there would be an upheaval, or an uproar, let's say, among those employed when and if we brought back the former controllers. I don't know of many organizations or of many companies who run a poll through the employees and say, "Do you mind if I hire these people, or those people? Is that OK with you, guys?" On the face of it, the argument is slightly specious.

Have you hired back any of those controllers?

Admiral **Engen**. Yes, sir, there have been, about 650 of those controllers.

Senator **Lautenberg**. Has it created hell on the system?

Admiral **Engen**. It did; it did.

May I say, sir, I have about 2,500 controllers who are capable of retiring and they are staying on. Generally speaking, I have about 350, give or take 25, in each year who do retire. I have picked up this strong sentiment as I have gone about the system that if those people were indeed brought back, those people who are eligible to retire will leave.

Senator **Lautenberg**. I am not encouraging their leaving. I believe we voted to change their intentions, did we not, to be able to keep some of these people on?

Admiral **Engen**. Yes, sir, 112.

Senator **Lautenberg**. If they chose to leave because they didn't like who you hired, it wouldn't talk very well of their loyalty to the job or the country. That is discrimination at its worst, I think. How about the 600 that you hired back, how many of the good guys quit because you rehired them?

Admiral **Engen**. I can't say, sir, I just don't have that figure. Where I have gone and talked to these people, I have found discontent. It is there, and it is a very strong feeling. It was a sad time for our Nation, and people on both sides were hurt.

If I may, sir, the people who stayed were loyal to the system, and they did indeed work very hard in the last 3 years. I have a loyalty to those people who stayed and helped rebuild the system, which is almost back to where we want it.

Senator **Lautenberg**. We are still 900 down, and I certainly would not recommend that these people be improved in grade or rate. I haven't talked to them, but I imagine that a lot of them would be content to just get back in the system at the lower grade salaries. But to bring those skills in, I think, would be a real service, and I would urge that that option be kept open.

If it doesn't add anything at all to the system or to the standards, then I say, that is too bad. But if it does add something, and if it helps keep our economy moving, I will tell you, Mr. Engen, I think that there is a disservice being rendered to the traveling public at large if we don't bring those folks back.

Thank you, Madam Chairman.

Senator **Kassebaum**. Thank you.

Senator Ford.

Senator **Ford**. Thank you, Madam Chairman.

Let me follow up just a little bit on Senator Lautenberg's questions, Mr. Administrator.

Under what circumstances, or under what procedure were those who participated in the strike returned to service?

Admiral **Engen**. Under review by the Merit System Protection Board.

Senator **Ford**. What was the criteria?

Admiral **Engen**. It was found that they were not to be strikers or there was inadequate information available to say that they had indeed been part of the strike.

Senator **Ford**. You say you have 900 in training now, or in the pipeline?

Admiral **Engen**. There are 900 that I would like to get in the pipeline as quickly as possible. They are out there, and they are basically identified. They are not in my system and have not gone to the Oklahoma Academy yet.

Senator **Ford**. Are they now in some capacity of being a controller?

Admiral **Engen**. Some are and some are not. May I ask Mr. Van Vuren to volunteer any information he might have about these 900.

Senator **Ford**. Sure.

Admiral **Engen**. Ray is my Associate Administrator for Air Traffic.

Mr. **Van Vuren**. The 900 people that we are talking about, actually the majority of those are all new hires. This is the shortfall that we are looking at right now. As of the end of last month, it was actually 754. It is a dynamic number that changes, I am sure you can appreciate that.

Where we are concentrating our training right now is the area that the Administrator had mentioned before, which is the 1,906 people who are actually in the developmental and trainee area. Some of those people are actually in the academy, going through the academy program right now, which is a basic air control program, and some of those people are actually just starting their on-the-job training or training in the field facilities themselves. So none of these people actually are productive. They will be productive as they qualify on positions.

A new individual coming out of the academy as a GS-7, which we hire them at, within 6 months can go to a GS-9. At that time, they can actually start working on what we call nonradar positions. They can become productive controllers and perform productive duty for us in those areas, when they are certified on two operational positions in the nonradar area.

So we have several different steps that a controller can go through or an individual can go through to be what we call an FPL controller, but there are also many areas below that where they are productive, they actually are doing things that a controller does. I don't know whether that helped you or not.

Senator **Ford**. I am getting just a little bit confused with the numbers, and that is the reason my wife keeps the checkbook.

You are talking about having 600 or 900 out there, but they are not even in the System yet.

Mr. **Van Vuren**. That is true.

Senator Ford. They are just out there. They have made an application, and they have passed the paperwork, but maybe they have not yet passed the physical. So they are available, but they are in addition to the 1,900-plus that you have in the System now.

Mr. Van Vuren. Yes, sir.

Senator Ford. So that makes 2,800. I know the difference between GS–7 and GS–9, that is what I hire my employees.

Senator Lautenberg. I don't know the difference.

Senator Ford. We are even. You can add, and I know the numbers. They say that when Ford comes, things pep up a little bit. How many of the 1,900 plus will wash out?

Mr. Van Vuren. The washout program that we look at, in the en route environment, our loss rate is about 52 percent.

Senator Ford. You say the "en route environment." Is that from the beginning, when they are hired, until you become a first-class controller?

Mr. Van Vuren. No; that is an option. There are two options that we are talking about when we talk about air traffic controllers. One is the en route option, which is the air traffic control centers, which handles all of the en route traffic. The other one is the terminal, which is your tower that handles all of the airport traffic. These are the two options we are talking about.

The en route option is actually the highest washout that we have right now because it is strictly nonradar areas where they are doing a lot of time and geographical type of mathematic computations that have to be done by a controller when he is not using radar. We lose a lot of folks in that area. What we are looking at right now in the OJT area in the field facilities, we are looking at a loss rate of about 21 percent.

Senator Ford. You have 52 percent in one, and 21 percent in the other.

Mr. Van Vuren. At the academy, right. The academy is geared to be a screening facility.

Senator Ford. How are the 1,900-plus divided?

Mr. Van Vuren. I don't have that with me. I could furnish that for the record.

Senator Ford. It could be 1,800 of them with a 52-percent loss ratio, and 200 of them with the 20-percent loss ratio.

Mr. Van Vuren. No. All 1,900 that I am talking about, with the exception probably of 400, actually are in the field facilities, and that would be the 21-percent washout ratio I am talking about.

Senator Ford. How many do you have that retire annually?

Admiral Engen. About 350, give or take 25.

Senator Ford. How long will it take the 1,900 to get through?

Admiral Engen. From the very start, upon graduation from the academy, 2 years.

Senator Ford. So, you have 350 each year?

Admiral Engen. Yes.

Senator Ford. So 350 would retire, and roughly 30 percent of them wash out. You are not gaining on them very fast, are you?

Admiral Engen. Not as fast as we want to.

Senator Ford. You have those who retire, and some who are staying on that could retire, that could be triggered to go out. The way you are bringing them on through the academy for a 2-year period, and then you have roughly a 30-percent, a little higher average, if you put them all together based on the number. So you are really not moving very fast.

Admiral ENGEN. I understand what you are saying, Senator.

Senator FORD. I understand the 4½ hours to 6½ hours, and you picked up 50-percent employment there.

Admiral ENGEN. Gainful employment.

Senator FORD. You gained 50 percent in time spent.

Admiral ENGEN. That is the total.

Mr. VAN VUREN. First of all, Senator, if I can, from last March until about the end of August, we increased the number of controllers actively controlling by 700. It means that 100 people a month were coming into the system.

Yes, we are losing more than we want to lose, but we want to be very selective because the air traffic controllers are very key people, we must keep our standards high and we must be sure that we don't allow people to do this who are not fully qualified in a physical and mental sense.

To try to get a hold of what you are talking about, we are going to two shifts at the academy later this year, and we are going to double shift in order to crank out more air traffic controllers.

Senator FORD. You won't have the same teachers on both shifts, will you?

Mr. VAN VUREN. No. We are actually going to be sending through the academy in the recruiting process some 2,412 to put out, if you will, and the net gain that you would get, about 1,257.

Senator FORD. I flew over 300,000 commercial air miles in 1956, and that has been a long time. My odds are getting closer every time I get on an airplane, and I just want it to be as safe as you possibly can make it. I think there are a lot of good folks out there that could be brought onboard, and it bothers me that they are not. I want help in any way I can.

Figures are figures, you can make them work any way you want to. I would be very hopeful that we could get into a posture where we could say with a real degree of certainty, that we have as many controllers as we need and that they are all well trained. Even though you are going to double shifts, it is like getting production up. Sometimes, if you try to increase production too fast, you skip something. If you use the same teachers on two shifts, for example, are they going to have the same problem you are talking about with controllers?

I thank you, Madam Chairman.

Admiral ENGEN. Senator, I want to get there just like you do, sir.

Senator KASSEBAUM. Senator Humphrey.

Senator HUMPHREY. Thank you, Madam Chairman.

Admiral Engen, getting back to the Air Force Two incident, it strikes me as odd that a highly experienced controller, I believe you said, 25 years of experience, working four aircraft, would find it necessary to handle the aircraft the way he did.

How long was he on duty, may I ask, do you know that?

Admiral ENGEN. At this point in time, Senator, I don't know.

Mr. VAN VUREN. He had been on the position of operation for about 7 minutes. He had actually just signed on.

Senator HUMPHREY. How long had he been at work that day?

Mr. **Van Vuren**. I believe that he came on at 4 o'clock, working the 4 to midnight watch. It happened at 6 o'clock in the evening.

Senator **Humphrey**. It would not appear that fatigue was a factor in this case.

Mr. **Van Vuren**. No.

Senator **Humphrey**. What about this operational error device, did that play a factor in this?

Admiral **Engen**. It was not a factor. I can't tell you exactly because we haven't yet completed the investigation, but I can say for sure that the quality assurance did go off and that is probably what called it to his attention. It is designed to go off within 5 miles and 1,000 feet.

Senator **Humphrey**. What is that device called? I know that it is called a "snitch box" by the controllers, but what is its official name?

Admiral **Engen**. It is called the "assurance patch," and it is by that measure, Senator, that we measure the standards of all our controllers to be sure that we have definable standards.

Senator **Humphrey**. I understand.

So, the assurance patch issued an alarm after which he changed the clearance, is that correct?

Admiral **Engen**. That has to be an assumption on my part, sir, because we haven't completed our investigation yet. That is the way that it should normally work, yes, sir.

Senator **Humphrey**. So, then neither are you in a position to say that perhaps he changed the clearance at the last moment to avoid activating the assurance patch?

Admiral **Engen**. It wouldn't appear that way to me.

Mr. **Van Vuren**. Actually there are two things involved here. One of them is the quality assurance, which is the operational, error-detection program, which is a software patch that is in the machine, and the other one is what we call the "conflict alert program."

Conflict alert actually is a probe that will go out some 2 minutes in advance. It will pick up a deviation in the altitude, whether you have the standard deviation or a lateral type of situation. This will alert the controller that he has a potential conflict coming up.

Senator **Humphrey**. Yes.

Mr. **Van Vuren**. Whether that went off, we assume it did, because he could actually inhibit that where it does not show up on his scope. The quality assurance patch, he cannot inhibit that, that is automatic. It is consigned to the supervisor. So, we have to investigate to find out what did take place.

Senator **Humphrey**. I am interested, apart from this particular incident, in how that device works. In the case of the conflict alert software, that issues some information on the radar scope, is that what happens?

Admiral **Engen**. There are bells and whistles that go off when indeed you penetrate that.

Senator **Humphrey**. Literally, what are those bells and whistles?

Mr. **Van Vuren**. It is a flash that actually comes up on the scope, and it says CA for conflict alert. It will tell the aircraft that is in conflict.

Senator **Humphrey**. With regard to the assurance patch, what happens when that is actuated?

Mr. **Van Vuren**. The quality assurance or operational error detection actually goes off at 4.89 miles and/or 700 feet altitude. At that time, what it does, it continues to alert. It stays on automatic alert on the controller's indicator.

Senator **Humphrey**. So, there is some visual indication on the scope.

Mr. **Van Vuren**. Yes, and he cannot inhibit that. In addition to that, it prints out a message at the supervisor's watch desk that tells him that they have two airplanes with less than standard separation. At that time, they immediately investigate it.

Senator **Humphrey**. So it is a printed message on paper or on the screen?

Mr. **Van Vuren**. It is a printed message on paper, and the supervisor also has a see all scope where he can punch the scope up to bring that sector up and take a look at that sector and see the airplanes.

Senator **Humphrey**. Is there an oral warning of some kind?

Mr. **Van Vuren**. No; there used to be, and we have taken that off.

Admiral **Engen**. As I go about through the system, Senator, it is clearly as issue amongst all the air traffic controllers.

I have asked Mr. Van Vuren this month to convene a group of people together, of air traffic controllers and pilots, to sit down and talk about the quality assurance package because it is assuming proportions that we didn't mean it to assume.

It is indeed providing a standard by which we measure performance, but I think that we can look at it critically now after having used it for some time, and we are going to look at it that way this month.

Senator **Humphrey**. In your testimony, you list a number of near near-midair collision, and then likewise on the next page a number of operational errors. What has been the trend in both of those categories, the so-called near misses and the other kinds of operational errors?

Admiral **Engen**. Let's take near near-midair collisions first. The trend has been down continually since 1980, graphically down. The figure I gave you there was roughly half of what it was in 1980.

The quality assurance operational error figure I gave you was 1,188. We implemented the last quality assurance machine at New York Center on July 6 of this year. Any time that we have put the quality assurance patch in, we have found the number of operational errors to go up graphically. Within weeks, and I am going to say within 4 to 5 weeks, we find that that number has halved itself and graphically comes down again. So we are having today fewer operational errors using the quality assurance patch than we had when we first implemented it.

Senator **Humphrey**. I know that the airlines have entered into an agreement with the FAA to reschedule flights so as to reduce bunching. What is going to happen when this agreement presumably will have expired? Is there any intention, first of all, on the part of the FAA to encourage, shall we say, the airlines to extent that agreement? Is there an intention to extend it?

Admiral ENGEN. Let me just answer it simply, no, sir. I would like to pat the airlines on the back for the magnificent job they did in getting together and doing this. It was for the good of the whole system, really, and they did a magnificent job.

My goal is certainly not to reregulate in any way, shape or form. My goal is to back out of the system as soon as we can.

Senator HUMPHREY. So there is no intention to encourage an extention of that on the part of the FAA?

Admiral ENGEN. No, sir.

Senator HUMPHREY. Then aren't we going to be facing essentially the same problem next year in the way of delays because of seasonal factors, when the number of flight schedules begins to rise?

Admiral ENGEN. We are going to be faced with rising traffic again, yes, sir.

Senator HUMPHREY. Are we going to face the same problems? If they will be diminished, then on what basis?

Admiral ENGEN. First of all, I think that our air traffic system is maturing, and I think we are taking some steps with the en route system, that Mr. Van Vuren can comment on, if he so wishes, that will help improve the throughput in the system. I anticipate that this will improve in the next 6 months.

Also, by next June, I really anticipate being at a training level within the air traffic control force that will enable us to be much better off. I am going to say that we should be down around 1,000 developmental controllers at that point in time.

Senator HUMPHREY. Getting back to my question, what kind of problems are we going to have with delays due to bunching next year after this agreement has expired?

Admiral ENGEN. As I say, sir, I would hope that come April, we will have worked our way out. Hopefully the airlines will see that overscheduling in itself is not a means to the end, and they can accommodate themselves because, I think they will find that as they have made accommodations, they haven't canceled any flights, they will be able to get as many flights in in adjacent hours.

Ray, do you want to say anything?

Mr. VAN VUREN. What I was going to say is that one of the things that will help alleviate some of the problems that we have been having in the past is a new computer program, a new computer software program that we have just implemented that will be fine-tuned and will be gradually updated to a more sophisticated program than what it is right now. We just commissioned two new computer programs.

Senator HUMPHREY. Don't go into it in too great detail, if you will, I wish we had time.

You are saying that the delays that we have experienced this past summer will be substantially diminished next year because of increased controller capability and increased equipment capability, is that it?

Admiral ENGEN. Yes, sir. Hopefully, we will not overburden the already overburdened airports.

Senator EXON. Would you yield for a question on that point?

Senator HUMPHREY. Certainly.

Senator **Exon**. Certainly you have slotting authority. One of the reasons for slotting, as I understood it, was to keep too many airplanes from trying to land at the same airport at 6 o'clock at night.

Admiral **Engen**. I have it at three airports, sir.

Senator **Exon**. Are you saying, in answer to the question that has been asked of you, that you don't want to control again? We all agree with that, but I say to you, Admiral, if there is any more danger, more than normal, can it be partially controlled with slotting authority?

Admiral **Engen**. I can control, Senator Exon, and I do through central flow control. Mr. Van Vuren and his troops in our Washington headquarters literally have their hands on the faucet and control traffic flow. That brought about a lot of the delays this summer that none of us liked. From a safety standpoint, I will keep the system safe regardless. Safety won't come into it.

Senator **Exon**. Thank you for yielding.

Senator **Humphrey**. Admiral, even if we had the en route equipment, the air traffic equipment that we all wish we had, would not airport capacity still be a limiting factor, even dismissing the other problems which are real?

Admiral **Engen**. I think we have to look very critically, Senator Humphrey, at our airports. I think we need to start now to plan for the future. Whereas we have 6 airports today that are causing a problem, in 1994 we are going to have about 9 or 10 more. It is a grave concern to me, and I am trying to endeavor to work with the communities to get people to come to grips with this problem and build the airports for the future.

Senator **Humphrey**. One of the problems, it seems to me, over the years, both with respect to airport facilities and airway facilities, has been that the trust fund has not been spent at the same rate it has been accumulated.

I am as tight with the buck around here as anybody, but when there is money in a specially designated trust fund, collected for a specific purpose, and it is sitting there on the shelf, I find it a little difficult to understand why we are not spending it for the purpose it was collected.

I don't know what the latest DOT or FAA appropriation situation is, if anybody does, for 1985 at this junction——

Admiral **Engen**. Dismal.

Senator **Humphrey**. Can you tell us where we stand? Are we going to start spending that money, or are we still playing budgetary games with that trust fund?

Admiral **Engen**. My goal is to use the Airport Development Fund, that is my goal. My F&E budget for 1985 is $1.5 billion.

Senator **Humphrey**. What is that?

Admiral **Engen**. Facilities and equipment budget, things I have to buy, and for which I can spend some of that trust fund money, is $1.5 billion in the House and $1.492 billion in the Senate. As you know, at this time there is talk of a continuing resolution. If that happens, I am in serious trouble. I don't know how to get to where I have to go if I am faced with a continuing resolution.

Senator **Humphrey**. There is about $2.8 billion unobligated in that trust fund?

Admiral **Engen**. No, sir. I think it is up around $5 billion.

Senator **Humphrey**. Why don't we either stop collecting the tax or start spending it at the same rate it is accumulating on the purposes for which it was intended?

Admiral **Engen**. My goal, sir, is to expend that money and buy the equipment necessary to improve our airports and to buy equipment for the whole air traffic control system.

Senator **Humphrey**. Is your wish being honored?

Admiral **Engen**. I would hope that it would be in 1985, yes, sir.

Senator **Humphrey**. You have only been on watch here for a short time, you can't take responsibility for earlier problems, but it is well known that that trust fund is being hoarded so as to make the bottomline of the Federal budget look a little better. It is pretty darn little in my opinion, and certainly not worth the detraction from air safety and growth in the capacity of the system that is so essential in the years ahead.

Admiral **Engen**. As a technical aviator like you, I would like to spend that money.

Senator **Humphrey**. I think, Madam Chairman, that is one thing that bears watching and I think that it has been watched for some time, but apparently the watching hasn't done any good.

Senator **Kassebaum**. I couldn't concur with you more. I must say that you plea falls on very sympathetic ears here. Frequently, the Office of Management and Budget doesn't look on it quite as sympathetically as we do.

Senator **Humphrey**. It is really outrageous, and I think if public attention were drawn to that budgetary tactic that some minds might be changed.

If I may, just a few more questions, Admiral Engen. The Airline Pilots Association among others has made some interesting recommendations on air safety. Just a couple that seem so inoccuous that I can't imagine why they haven't been adopted already.

For instance, as an immediate action item, ALPA has suggested that there be an emergency change made in part 91 FAR that would require all aircraft carrying transponders to turn them on. Whenever I am flying, I want all the protection I can get, I will tell you.

Admiral **Engen**. I am very interested, and I did sit down with Captain Duffy and his people from ALPA and we did discuss that list. I think that it is a very good list, and we are indeed looking at it.

Senator **Humphrey**. Who would have any objection to requiring that? Just as we require now the use of seatbelts which protects only the occupants of the aircraft, why not require the use of transponders if they are installed to protect not only the occupants but everybody else?

Admiral **Engen**. I think that it has merit. According to our regulations in the United States, you don't have to have a transponder if you don't fly within the air traffic control system.

Senator **Humphrey**. I understand that.

Admiral **Engen**. If you have a transponder onboard, I think everyone should use it. I think that it is a good idea.

Senator **Ford**. How much does a transponder cost?

Admiral **Engen**. Roughly $850 to $900.

Senator **Ford**. How much would a radar cost if you required all aircraft to carry radar?

Admiral **Engen**. Lots. I am going to guess now, Senator Ford, and say that we are talking $10,000 to $15,000.

Senator **Ford**. If every airplane had a transponder, then your controllers would have every airplane under control.

Admiral **Engen**. There is a limit. If every airplane had a transponder, I probably would be overburdened and I couldn't handle it.

Senator **Humphrey**. That brings me to the second recommendation.

Let me read the recommendation:

> Require all controllers to initiate computer tracks on all aircraft above 12,500 so as to derive maximum use of the conflict alert feature of the computer, which can be the genesis of a safety advisory.

I take it from that recommendation that controllers are not required to initiate computer tracks on all aircraft above 12,500, is that correct?

Admiral **Engen**. That is correct.

Senator **Humphrey**. Why do they not, then? That is serious flying when you get up there, and you have people up there either in pressurization or in oxygen, and you have transponders, that is some pretty serious flying.

Admiral **Engen**. As I said, I think that recommendation is a good one and we are looking at it as well. I think that it is valid.

Senator **Goldwater**. Isn't that regulation now?

Admiral **Engen**. Above 12,500, if you are in the positive air control space, and you are under positive control, it is required, yes, sir, it is.

Senator **Goldwater**. You can't clear IFR without it.

Admiral **Engen**. I think he is talking between 10,000 and 12,500, I think, Senator.

Senator **Humphrey**. I am reading it the way it is written here. I will read it again, "Require all controllers to initiate computer tracks on all aircraft above 12,500." What does that mean, "computer tracks"?

Don't all aircraft with transponders operating show up automatically on the scope?

Admiral **Engen**. Yes.

Senator **Humphrey**. What is meant by a computer track, a trace or something?

Mr. **Van Vuren**. A computer track is where you put a data tag on the airplane itself, otherwise you just have a code number like 1200, and you have an altitude.

Senator **Humphrey**. If you don't have the tag, then the conflict alert system is not working.

Mr. **Van Vuren**. He is going to be tracking.

Senator **Humphrey**. What they are saying is that all aircraft above 12,500 ought to be tagged.

Senator **Goldwater**. Turn it on with the ignition.

Admiral **Engen**. Yes, sir.

May I respond, Senator. I didn't give you a full answer. The positive control space starts at 18,000, so we are talking between 12,500 and 18,000. I apologize.

Senator HUMPHREY. It is quite all right. It is confusing to everybody.

You say that you are looking at these items. How long has the FAA been looking at these items?

Admiral ENGEN. I personally have sat down with Captain Duffy just in the last month and we discussed these things. I told him I thought they were a good idea. I don't have with me my regulations people, so I can't tell you because I personally am not aware of it. Everything has been studied at least once, and I am sure that it has been considered before.

Senator HUMPHREY. I am getting kind of long on time. Let me go to just one other very important item, if I may, Madam Chairman, and that is the collision avoidance system which has been talked about for 25 years, I guess, and we are still 15 years away from extensive operational use, it seems that I read that in somebody's testimony, is that correct.

Admiral ENGEN. I don't know about operational use, sir, but I can tell you where we are right now. We have it installed in a 727 in Atlantic City, and we have been running tests. We are going to do the Piedmont test starting on December 1 of this year. It was delayed a little bit. That will be running until June 1, 1985. From that, hopefully, we will have a program to implement.

I would like to get on it as quickly as possible. I think that it is a good program. I think that it will be expensive for the airlines, and the general aviation public will not be able to generally afford to buy into it, but for every airplane that has a working transponder, that transponder will respond to the one that has the TCAS.

Senator HUMPHREY. I would hope that it would be good after all these years of development. Is there no way that that program can be accelerated?

Admiral ENGEN. We are trying. To give you an honest figure, I don't think that we can get them installed in the air carrier fleet until about March 1986. It is a matter of serial production and getting them out and getting them installed. I will do everything I can to move that up as quickly as possible because it is a good program.

Senator HUMPHREY. Thank you. There is a great deal more that I would like to go into. Especially as a nonmember of this committee, I don't want to overstep my welcome here.

Senator KASSEBAUM. Thank you.

Thank you very much, Admiral Engen. As you say there are many questions that we could ask, it is a terribly important subject. We have a number of other witnesses, and we very much appreciate the time that you have given us this afternoon.

Senator EXON. I have one additional question.

Senator KASSEBAUM. Yes.

Senator EXON. I assume there have been studies of the color of aircraft to determine which colors show up better? Most airplanes are white or silver, or something like that, but what if there were an orange airplane? Have there been studies done as to whether the color of an airplane would make it easier to distinguish in the sky? Obviously, you wouldn't want it to be sky blue, I wouldn't think.

Admiral ENGEN. It is called conspicuity, and, yes, sir, there are studies. Getting people who spend hundreds of thousands of dollars to paint their aircraft orange sometimes is a very difficult thing to do. The simple answer is, yes, there are color schemes.

Senator **Exon**. I know that there is such a madness to deregulation and that we must not tell business what to do on anything, and yet we spend millions of the taxpayers' dollars to keep them separated. I guess somewhere along the line, I would be in favor, if we had something like that. If we just dared to tell business what to do.

I know that this is not the vote. You must not let Federal people tell any airline what to do. As an independent businessman myself, I think maybe that is the way I would go. But here we are talking about people's lives. It really doesn't bother me too much, coloring an airplane sky blue pink, if that would decrease the danger.

When you say something like that, Admiral, I really think you are saying, we want to protect the public as best we can within reason.

Admiral **Engen**. It is just that like you, I have been around a long time, and the color aircraft has been a topic for many years. There are some people coming behind me to testify, and I might suggest that you try that on them as well. I think they will have some answers, too. I don't want to dodge.

Senator **Humphrey**. Would the Senator yield on that point?

Senator **Exon**. Yes.

Senator **Humphrey**. Perhaps even better are strobe lights, with which I believe all airline aircraft are equipped, and they are available, I am told, for as little as $200 to general aviation aircraft. I testify from personal experience that even in the brightest daylight, strobe lights are a great help, especially under this see and avoid concept which is becoming more and more risky in my view in certain parts of the country.

Senator **Goldwater**. I have an amendment to the Civil Rights Act that will take care of the paint job.

Senator **Kassebaum**. We will stop the questioning on that cheerful note. Thank you, Admiral Engen.

Admiral **Engen**. Madam Chairman, thank you very, very much. I appreciate the opportunity.

[The statement follows:]

STATEMENT OF HON. DONALD D. ENGEN, ADMINISTRATOR, FEDERAL AVIATION ADMINISTRATION

Madam Chairman and members of the subcommittee: I am pleased to appear before you today to discuss the state of the air traffic control [ATC] system and our continuing plans to improve the system. I take a strong personal interest in the operation of the ATC system. In addition to daily reports I receive on system performance, I continue to visit our field facilities where I have spoken with and listened to thousands of our working controllers. I have heard their concerns and taken their suggestions and comments back with me to Washington headquarters. In just the last month I have visited the Boston, New York, Kansas City, Los Angeles, and Fort Worth centers. Each month I also visit towers and Terminal Radar Approach Control facilities across the nation. My visits have confirmed the reports that I receive daily—the air traffic control system is operating safely. The system is still recovering, but it is healthy and ready to meet the challenge of increased traffic loads which have been brought about by our nation's economic recovery. Cooperation between the FAA and user groups is high, and, working together, we are continuing to improve upon the U.S. aviation system which is already the best in the world.

ATC RECOVERY

Overall, the air traffic control system recovery is progressing well. We still have a ways to go, but the progress we have made to date is impressive. Let me elaborate on that point. We are now handling, on average, 106% of the traffic nationwide that we handled in July 1981, which had the highest traffic count prior to the illegal controllers' strike. In terms of staffing, we are currently at 91% of our goal of 6,627 operational controllers in the terminals and 83% of our goal of 5,085 operational controllers in the en route centers. We have 1,904 controllers in various stages of training in the developmental pipeline. We are well on our way toward meeting our goal of 14,306 employees in the controller workforce for 1984-85 to meet expected air traffic demands. We expect to reach this goal by next February, although some controllers will still be in the developmental training phase.

In order to meet our staffing requirements, factoring in projected training attrition rates, the FAA Academy will begin double shifts of classes, starting in December. I am continuing to monitor our staffing situation and, if I find that, due to increased traffic projections or other reasons, our controller workforce should be increased beyond what we currently believe is necessary, I will not hesitate to ask the Congress for more positions.

The need for overtime has continued to go down. When comparing overtime for the period of January to the end of July for the years since the strike, we find that there was a 29% decline from 1982 to 1983 and a 6% decline from 1983 to 1984. We expect further reductions in overtime as we reach our staffing goals.

SAFETY

Although there are periodic media reports of "safety problems" in the air traffic system, factual data shows that the safety of the system is continuing to improve. The fundamental purpose of the ATC system is to separate aircraft, and that system is performing well. In addition, the number of confirmed near mid-air collisions has gone steadily down, from 568 in 1980, a year before the strike, to 286 last year. In the first 8 months of 1984, 178 reports have been received. The vast majority of these incidents have involved at least one aircraft not under the control of the ATC system.

To promote high quality ATC services, we have instituted a quality assurance program. As part of that program, and consistent with Congressional concerns, we have implemented an automated operational error detection program, which can detect even the slightest infringement of our standards for aircraft separation. As a result of the improved error detection capability, the number of reported errors in a facility typically goes up immediately upon implementation of the new software, but then goes steadily down as controllers become accustomed to the improved monitoring of their performance.

We have also adopted a classification scheme developed by one of our employee participation groups that refines our analysis of operational errors. Based on a sliding scale of horizontal and vertical separation, operational errors are now categorized as "Major," "Moderate," or "Minor," depending on the seriousness of the infringement of our separation standards. Significantly, of the 1188 operational errors detected in the en route centers through September 24th of this year, 88% were minor, 11% moderate, and less than 1% could be considered major.

Implementation of the new software and the improved analysis being applied to operational errors has led to a better understanding of the causes of errors and permitted us to concentrate our efforts on specific causes. Employee acceptance of this program has, frankly, not been good. Therefore, we have taken steps to place more emphasis on the positive approaches to improved performance and less emphasis on disciplinary action in relation to operational errors. Also, we are continuing to address employee perception of the program, which we regard as an important safety tool.

DELAYS

One of the concerns we share about air travel today is the problem of delays in the system. Delays for the first 8 months of 1984 were up 85% over those for the same period last year. This has generated a lot of publicity and, quite naturally, impatience among air travellers. I want to assure you that we are working diligently to try to alleviate this problem.

I should point out that one of the causes of delays is something which we would not want to change—the nationwide economic recovery which has stimulated an unprecedented demand for air travel. The airlines will seek ways to meet that demand. The FAA must work to provide the means for them to do that.

Other factors which impact on delay are limitations on the ground, such as runway, taxiway and gate capacity; computer capacity; traffic volume; air traffic staffing; and airline schedules. Bad weather this summer has caused an especially large number of delays. FAA can, to some extent, affect limitations on the ground through funding made available under the Airport Improvement Program [AIP]. This Subcommittee has been a prime supporter of federal efforts to improve our nation's airports through the AIP. However, local and State governments play a major part in this effort, and this type of improvement takes a long time, not only because of funding and construction time, but also because of the need to carefully assess noise and environmental impact. We, of course, have control over computer capacity, which is being addressed by the NAS Plan, as well as additional short term system adjustments, and air traffic controller staffing which I have already touched on.

I anticipate that, as we move into the winter flying season, the recent airline scheduling agreements and the fact that more controllers are becoming qualified will help reduce aircraft delays. We believe that the recent "demand scheduling" meetings held by FAA and the airlines under grant of CAB antitrust immunity have worked out satisfactory solutions to the problems at the six most critical airports. We hope the CAB will promptly approve the agreements the airlines reached.

At the carrier meetings, FAA pointed out to the carriers the critical time periods, in 15-minute intervals, when airport capacity was exceeded by scheduled demand. The cooperation we received from the carriers was outstanding. In order to alleviate the congestion at these times, they shifted hundreds of flights from peak time periods to less busy times. This will smooth out traffic demand to a significant extent and should significantly contribute toward alleviating delay problems at those airports.

GENERAL AVIATION

I should point out that the excellent cooperation FAA has received from the airlines in trying to alleviate the delay problem has been matched by the general aviation community. We have met with a number of general aviation groups, and they have indicated a desire to do what they can to help the situation. We are confident that general aviation will do its fair share, and that, if given adequate information about areas of congestion, they will help resolve the problem. As an example, the National Business Aircraft Association has developed what it calls the "FASST" [Fly Around Saturated Sectors and Terminals] program to encourage its members to avoid congested facilities. To promote this type of cooperation, a meeting between FAA and general aviation user groups was held on September 28. At this meeting, information concerning peak hours at the six identified major airports and congested en route high altitude sectors was provided to the user organizations. These sectors will be published in appropriate charts and the Airman's Information Manual, and the general aviation community has indicated a desire to give this information widespread dissemination.

The other side of air traffic in our national system is VFR traffic, where much of the nation's flying is performed. I point this out because only a portion of air commerce flies within the system receiving services of air traffic controllers. Where controlled and non-controlled aircraft interface below 18,000 feet and outside of terminal control areas, there are special problems. We cannot and should not infringe on the right of airmen to fly where they wish in the U.S. However, where these two types of traffic interface, we find the greatest incidence of reported near mid-air collisions. From a safety standpoint, we need to increase pilot and controller vigilance in these areas.

I would like to take this opportunity to assure you, Madam Chairman, that, while general aviation may be restricted along with other aviation users at particularly congested facilities, the FAA has no intention of excluding general aviation from any airport or airspace, on either a short term or long term basis, as a means of reducing delays. We believe that the answer to the delay problem requires the concerted effort of all segments of the aviation community, and that fairness dictates that one segment should not shoulder more than its fair share of the burden in trying to solve the problem. As I have already indicated, we have received excellent cooperation from all segments of the user community, and we believe this cooperative effort will prove successful in overcoming the recent delay problem. In fact, the government/industry Think Tank FAA convened in June to study the causes and cures of delays recommended closer FAA/Industry collaboration, and we believe this is a sound idea.

ATC REORGANIZATION

Another initiative, which is in the process of being implemented, is the centralization of air traffic control operational authority under the Associate Administrator for Air Traffic. This centralization will improve the standardization of air traffic control operations and procedures and will give expanded responsibility to our Central Flow Control Facility in Washington. This will better enable us to make efficient use of available capacity throughout the ATC system, help reduce congestion and delays, and make the system more responsive to users.

In conclusion, I would like to reiterate that the air traffic control system is operating well, and continues to offer a high level of safety to the travelling public. I am encouraged by the progress we have made to date in recovering from the illegal controllers' strike of 1981, and I am confident that we will continue to improve upon our ability to serve the users of the system.

That concludes my statement, Madam Chairman. At this time, I would be pleased to respond to any questions the subcommittee may have.

Senator **Kassebaum**. The next witness is the Honorable Patricia Goldman, Vice Chairman of the National Transportation Safety Board.

It is a pleasure to welcome you. Senator Goldwater just asked me, "Is she going to read the whole thing?" I know that you know how to summarize very well.

STATEMENT OF PATRICIA GOLDMAN, VICE CHAIRMAN, NATIONAL TRANSPORTATION SAFETY BOARD, ACCOMPANIED BY DAVID KELLY, AND MICHAEL O'ROURKE

Ms. **Goldman**. I hope to, and I also will be designating questions for the next group.

Madam Chairman, members of the committee, I thank you for this opportunity to present the views of the National Transportation Safety Board on the operational safety of the U.S. air traffic control system.

I have with me also a few aides. On my right, I have Mr. David Kelly, who is the Chief of the Operational Factors Division of the Safety Board, and on my left is Mr. Michael O'Rourke who is an air traffic control specialist. Both of these gentlemen had been air traffic control specialists professionally before joining the Board.

As you know, the Board has been concerned about the air traffic control system throughout its history, and since the 1981 walk out, we have taken several close looks, studying the system itself right after the original strike and then again in 1982.

Following both of these assessments, we made a number of recommendations to the FAA, and those are summarized in some additional materials that we will submit for the committee files. I would say that the FAA has been generally responsive to those recommendations and has implemented a number of the suggestions that we have made, particularly the system which has been talked about so much this morning, which is the automated program to objectively monitor controller performance, using as the index the number of times the aircraft separation standards are compromised, which you have given quite a bit of attention to already.

I would say also that we spend a great deal of time looking at situations as they develop or are brought to our attention when there have been particular incidents. We are concerned with the mix of the buildup of the system and the air traffic control force.

There are five high density terminal airports where the numbers of scheduled air carrier operations remain limited, and this is, of course, based on the maximum acceptance rate for the air carrier operation at the airport rather than on the air traffic control workload.

We are concerned that while the FAA central flow control facilities are still operative to limit dynamic peaks and monitor the scheduled departures based upon anticipated delays at certain destination airports, the air traffic control system is essentially operating on a free access basis today. The lifting of the restrictions for the access resulted in a rapid escalation of traffic under control, which has also been discussed.

In addition, looking at the overall numbers, I think that it is very essential that we look at specific increases in either the en route centers or at some of the airports. Senator Lautenberg mentioned Newark, I think that is one of the examples that has seen that kind of thing.

While we have not formalized another evaluation of the whole system as such, we are continuing to oversee specific instances as they come to our attention. I would like to submit for the record a number of those, and highlight some of the things that we have been looking at recently.

We have investigated, for example, eight incidents and one accident involving air traffic control separation since January 1, 1984. The accident to which I refer was the tragic mid-air collision of a commuter air carrier with a corporate airplane at San Luis Obispo, CA, on August 24. The synopsis of those facts as we know them is contained in my formal statement. We are also planning to do a hearing on that accident at the end of October and the first few days of November.

While some of those investigations are still underway, the facts and circumstances that have been developed provide support for some of the concerns expressed by the Board in its special investigation reports. Other issues have been identified which are specific to an air traffic control facility or the circumstances of a particular occurrence.

An example of a specific air traffic control issue was the near mid-air collision between two wide-body airplanes over the Atlantic Ocean east of the coast of Florida on January 1. It involved facility coordination, and in particular radar situations in the Miami area.

Another investigation involving a near mid-air collision of a U.S. Air Force KC-135 tanker and an Eastern Airlines Boeing 727 near Atlanta on July 16, 1984, disclosed an undesirable and a correctable characteristic of the en route air traffic control radar system software which precluded the display of one of the targets on the controller's scope. The FAA has already taken action to resolve that deficiency.

But the issues of broader applicability raised during these investigations involve the lack of redundancy inherent in the air traffic control system to alert both controllers and pilots to developing conflicts between the airplanes under air traffic control and airplanes flying under visual flight rules, the potential for the traffic flow which tax the capability of the relatively inexperienced controller staff, and even the potential to saturate the density of the traffic per volume of airspace and overload the present air traffic control system hardware during certain peak hours.

In addition, some of the investigations indicate that controller alertness to conflicts involving the mix of IFR and VFR traffic may be degraded at times when on-the-job-training is being conducted.

Controller staffing limitations and inexperience are not the only problems facing the system. The capacity limitations which have been discussed can lead to traffic saturation during peak times of the day. They require a combination of exacting flow control measures and the redundancy provided by the collision avoidance systems in order to ease the strain on the system.

Some of the programs that have been discussed to ease it, obviously, are of a very long-term nature and some of them are short term.

The main thing that I would say is that the Safety Board remains concerned about access to the system and the spreading out of the volume of traffic that has to be managed so that we do not overtax controller experience levels or exceed the terminal or airport acceptance rate, or saturate the system capacity with the current controller staffing levels.

I would be glad to respond to questions and not tax Senator Goldwater any further by reading this statement.

Senator **Goldwater**. I was enjoying it very much. I love to hear your voice.

Senator **Kassebaum**. It was an excellent summary, thank you.

I am interested, because you commented on the mix of the buildup in the system, speaking particularly of Newark or National where there are problems with inordinately high levels of traffic. Is there a problem between the VFR and the IFR as this mix is coordinated?

Ms. **Goldman**. There is a problem in terms of having the redundancy that we have in terms of conflict alert.

Senator **Kassebaum**. What do you mean by redundancy?

Ms. **Goldman**. That there be some redundant system so that a near midair collision could be detected when two airplanes are under positive control. In IFR conditions, as you indicated there would be a conflict alert, and this is not now available for the IFR/VFR mix. That is one of the things we have asked the FAA to take a look at.

Senator **Kassebaum**. I guess you have addressed this. Is it correct that even if the current ATC computers have acquired radar tracks of both the VFR and the IFR planes that it will not predict collision and warn the controllers?

Ms. **Goldman**. In the mix of the IFR and the VFR, it does not provide that conflict alert.

Senator **Kassebaum**. Will the new computers do this?

Ms. **Goldman**. This capability is not planned at the present time.

Senator **Kassebaum**. Why would this be so? It would seem to me that it would be so useful to have the computer be able to do that.

Mr. **Kelly**. I think that it is important to note that the VFR traffic being tracked by the ATC computer, the VFR pilot must be in communication with the controller to tell him what his flight plan is and be assigned a discrete code, then the computer system can track the VFR flight.

Senator **Kassebaum**. Then it is really up to the pilot at that point?

Ms. **Goldman**. Yes, but there is nothing now. What we are asking for is that a software program be developed so that a conflict would be displayed even if the VFR traffic were not in communication, and that is what I was speaking about.

Senator **Kassebaum**. What would be your suggestion, in studying this, for relieving congestion, let's say, at National?

Ms. **Goldman**. At any of the airports, one of the things that we are talking about, without going through the economics of it, is to spread out the peaks. One of the problems is that you get almost a saturation. While we had the controller experience, there was a lot of discussion of getting the numbers of controllers up. No matter how many controllers come into the force, if you have more traffic than can be accepted at a given period of time it is a problem beyond just the numbers of controllers.

Senator **Kassebaum**. Did you say you had done some studies on the Air Traffic Control System?

Ms. **Goldman**. Yes.

Senator **Kassebaum**. I suppose, as you have analyzed each of the accidents, or near accidents, that you have investigated, that you have made some assumptions on the ATC system. What specific things will you be looking at if you continue your studies? What do you place as a top priority?

Ms. **Goldman**. There are a variety of things. As I have indicated, in each of the specific incidents that we are investigating there are a variety of different circumstances. For example, in some of the cases, training was going on at the time of the occurrence.

The question of the planning of supervision and how many people are involved in the sectors—we have been studying the incident near Philipsburg this summer. We are looking at the number of people, the scheduling of supervisory details, the ability to predict the peak periods and to provide for those in the staffing.

If you like, I could go through the circumstances in each of these accidents, I shouldn't say accident. Fortunately, there was only one accident, and the others were incidents, such as the flow control in the Philipsburg case and whether that was appropriately handled.

Senator **Kassebaum**. No; I was just wondering if you had seen a pattern.

Ms. **Goldman**. The question of the mix of IFR versus VFR traffic that we had talked about is one of the repeatable circumstances. If you will, out of the hundreds of thousands of operations, or roughly 100,000 a day that we have talked about, we are talking about 8 incidents over the period of time of the summer.

So you are talking about a very small number of incidents out of the large number of flights. Since we are only dealing with eight, to get repeated occurrences we are going through the data. One of them is the mix of IFR/VFR traffic and the training circumstances.

Senator **Kassebaum**. Senator Exon.

Senator **Exon**. Thank you very much for your testimony, it was very interesting.

Let me ask a question that I have been waiting for an opportunity to ask. I don't know if you can give me a definitive answer or not.

There has been some controversy going on for a number of years about whether or not we could avoid some midair collisions if we had a device, which I understand is available at not too great of a cost. Again getting back to mandating, we could mandate, I suppose, that aircraft have some sort of warning device. Then, when one airplane came within a certain distance of another aircraft, the warning device would go off. That presupposes that every aircraft would have it, so you couldn't do it overnight.

Are you familiar with the device that I am talking about?

Ms. **Goldman**. I assume that you are speaking of collision avoidance systems of which a variety have been proposed over the years. The Administrator discussed that. They are beginning to test the current system, but we are still some years away from widespread application of that system.

Senator **Exon**. We are some years away, and I have been led to believe that it is some years because there has been some foot dragging in the regulatory agencies. Do you think that the statement that I just made is not accurate?

Ms. **Goldman**. It had been accurate, but I believe that the decision has been finally made to go ahead and now the testing of the system is going to go ahead. So I think they are moving with some deliberate speed at this point.

Senator **Exon**. Was it not true that the FAA felt that such a system was unnecessary because of the new ground control system that would make it redundant if not superfluous?

Ms. **Goldman**. I can't speak to that. I don't believe so. I believe that the current Administrator believes that this is something worth testing and proceeding with.

Senator **Goldwater**. This has been going on for over 25 years. There was a time when the FAA, through their test station, felt that ground control with radar was more dependable combined with voice than an instrument. But the instrument now finally has been approved, and I think they are available, you can buy them.

They are not cheap, but they are dependable. It is something that should have been in the inventory, let's say, 25 or 30 years ago. I know my son found one up at China Lake that the Navy had tested and it was perfectly operable, and that was 15 years ago.

Under the new FAA, I don't think you are going to find that any trouble.

Senator **Exon**. I am glad to hear that because I believe there was one whistle blower that took a pretty strong stand on this issue. Basically this person lost his job because of his position, and he hasn't gotten it back yet, and probably never will. I am glad that some progress is now being made.

I have no further questions.

Senator **Kassebaum**. Senator Goldwater.

Senator **Goldwater**. I have just one. This accident that occurred at San Luis Obispo, I think is a typical problem that you are faced with and you are going to be faced with. San Luis Obispo is out of the direct range of the Los Angeles radar, I think I am right in that, they have to depend on remote dishes to get the signal in to Los Angeles?

Ms. **Goldman**. Mr. O'Rourke was out there.

Mr. **O'Rourke**. Radar signal is remoted into the Los Angeles Center, but they do have radar coverage.

Senator **Goldwater**. Even with remote there is a chance that it is not all that accurate, is that not right?

Mr. **Kelly**. I believe that it meets the minimum specification.

Senator **Goldwater**. Here we have a scheduled airliner, Wings West airflight, taking off with clearance from Los Angeles clearance control, and we have a private aircraft taking off VFR with no control other than the tower. The tower would have to be in possession of the clearance from the Los Angeles departure control—

Ms. **Goldman**. Senator Goldwater, might I interject to say that there is no tower at San Luis Obispo.

Senator **Goldwater**. I thought that, but I didn't want to mention it. There didn't used to be.

Ms. **Goldman**. I should have been as discrete as you are.

Senator **Goldwater**. This brings up another problem that we have probably all over this country, airports without any control. I am reminded of one in my own State where there is a flying school. I recall one night trying to get in, and they had one airplane on the ground to act as a tower. He told me I was No. 16, and with mountains all around there, it gets a little frightening.

I think the requirements for towers are quite high. I think it takes 26,000 operations a year, is that correct?

Ms. **Goldman**. There is a priority list. One of the things we are going to be exploring in the hearing with the FAA is what the priority list is for it, and the number of operations that have to be scheduled. What particularly concerns us is the increase in the number of scheduled operations at uncontrolled airports since deregulation, so that is an area that we will be covering.

Senator **Goldwater**. I wish you would take a real close look at that because we have some airports, I am speaking particularly of the West, that create a lot of traffic. This particular one is a stopping point for refueling, and we now have a tower. I can think of another little community, Flagstaff, AZ, without a day around tower. If you don't have some kind of control on approach or for the aircraft taking off, it gets to be very, very dangerous.

This incident up at San Luis Obispo is one to me that is going to be repeated, and I see no way of controlling it when you can't say to the VFR pilot, "No, don't take off now," or "You are taking off from the wrong runway," or "We have a scheduled flight from a scheduled airline."

I think you are very well aware of that, and I want to compliment all of you on what you have been doing in this field.

Most airports have departure procedures for VFR, and approach procedures for aircraft, but some of them are not known. We find some people taking off and turning in the wrong direction, or making staight-out approaches at altitudes that they do not know about.

For example, I keep going back to home because that is where I do most of it, but the straight climb from Phoenix Sky Harbor

West tells you to stay under 7,000 feet until you pass Luke Air Force Base, and a lot of pilots don't pay any attention to that. There is no penalty except if an F-116 or F-115, that is the penalty, and we have had one of those.

I just mention that as something you can keep in mind. I think you are doing a good job.

Senator EXON. Would you yield on that particular point?

Senator GOLDWATER. I won't put that on civil rights.

Senator EXON. Aren't you going to go all the way?

Senator GOLDWATER. No way.

Senator EXON. The point that the Senator makes is a good one. I had a personal experience similar to that not too many years ago flying in a twin-engine airplane. We lost an engine and we were worried about the other one. We were on final, and here suddenly another airplane shows up right smack in front of us, and we had to go around.

This was another one of those airports that has been aggressively trying to get particularly private aircraft to come in and fuel up. We have a lot of those in the West, but there is no control. It is a potentially dangerous situation. I don't know the answer to it. Maybe what we should do, as Senator Goldwater indicated in his question, is lower the threshold of the number of landings into those places.

Senator GOLDWATER. I like that airport, they give you steaks.

Senator EXON. They sure do, and they roll out the red carpet.

Senator GOLDWATER. That is right.

Senator KASSEBAUM. I would like to follow on for just a minute. It seems to me that one way that it could be handled, if you take off from an airport where there is not a tower, you could check in with the nearest control facility so that you are tracked, and, as I think it was mentioned in the testimony of Admiral Engen, turn on your transponder.

Ms. GOLDMAN. The VFR traffic did have a transponder in this case.

Senator KASSEBAUM. Was it turned on?

Ms. GOLDMAN. Yes.

Senator KASSEBAUM. So they were on radar.

Ms. GOLDMAN. Both planes were displayed on the radar. Unfortunately, the controllers, who were covering that, did not see either. They had seen the scheduled airline, but they didn't see the developing conflict.

Senator KASSEBAUM. But they were both on the radar.

Ms. GOLDMAN. They were both on the radar. In fact, in each of the incidents that are indicated in here, they all could have been identified.

Senator KASSEBAUM. Senator Lautenberg.

Senator LAUTENBERG. Thank you.

Just a couple of things. One is, in any of your investigations, is it fair to say that you on occasion have seen some inexperience factor with a controller that might have made the difference, or if not inexperience, some human shortfall of not paying attention? Has that been a factor in any of the near-misses or actual collisions?

Ms. **Goldman**. With the exception of the Miami incident, we have not completed the investigations. As you are aware, in most of the cases human error is frequently a factor.

In the case of the experience level, it has varied. I think Mr. Kelly probably could address that. Some of the controllers involved in these incidents were highly experienced. In Philipsburg, the original controller who was involved in that incident had 25 years of experience. Some of them have been recently certified controllers. You have a mix of people on duty; people who are in training with supervisors who were training them. So we have had a mix of experience.

Senator **Lautenberg**. Are there enough critical incidents to indicate that the experience of the controller does make a difference, or inexperience, on the other hand, has made a difference?

Ms. **Goldman**. It is hard to get trends with a small number like that. One of the things that we are concerned about is situations where there is near saturation of the traffic levels at the time, the experience is a major thing that we want to look at.

Senator **Lautenberg**. To reduce the sectors in the very crowded area that an individual has responsibility for?

Ms. **Goldman**. Some of those adjustments have been made just in terms of handling the traffic so that the sectors have been changed at different times through this period.

Senator **Lautenberg**. Is it fair to say that you would breathe easier if we had experienced controllers on those regions with heavy levels of traffic?

Ms. **Goldman**. Again, I think we have tried to maintain—I think I sound like a broken record on the subject or the Safety Board does. It is keeping the traffic at a particular level as the experience level of the controllers to handle that develops. That is one of the reasons I had expressed in my formal statement that we had been concerned about the proposal——

Senator **Lautenberg**. On access?

Ms. **Goldman**. On access, but also about where the delays are taken, whether they are taken on the ground or in the air. I think that is something that we don't have any experience to show as yet, except that the controller force that is there now has not had the experience of the delays taken in the air as we had before the strike.

Senator **Lautenberg**. So the options are relatively few, improved technology, hopefully better weather, et cetera, and then you get down to things that we can do something about, improving the equipment within the aircraft, improving the equipment at the airport, and then ultimately assign the most experienced people that we can get to these critical jobs.

These are very sensitive jobs. Their only mission is safety, no matter how close the airplanes came, if someone didn't stand a chance of getting killed or seriously injured.

Ms. **Goldman**. It is a delicate balance of a variety of things. In the short term there are only so many items that we can judge on.

Senator **Lautenberg**. I guess, if one were to go into an operating room, you would not look at the fraternity that the doctor went to, you would look more at the training and experience that he or she had. I never tire of making this point, I assure you.

I wanted to ask you one other thing. In New York, September 17, 1984, there was a reported near-miss between essentially two private aircraft. I use the term "private" loosely because they were not airline. One was an air taxi, a Beechcraft, and the other was a Jetstar. One came out of Newark, as I understand it, released to take off, and one came out of LaGuardia, and were under the New York TRACON and LaGuardia departure control center. If I am wrong, correct me please. Are you familiar with that incident?

A reason that near-miss occurred is because there wasn't a conflict alert feature associated with the release of the two aircraft by the two supervising control stations. Is that correct?

Mr. KELLY. The Jetstar took off from Newark on a standard instrument departure, which would require him to make an immediate left turn and be restricted to a certain altitude that he could climb to. The Newark controller released him from the requirements of that departure, and the aircraft, rather than making an immediate turn, continued considerably more toward the northeast.

The Newark controller went on the land line and tried to coordinate with the LaGuardia controller that he was going to have an aircraft entering his air space. When he did, the LaGuardia controller said, "No, I have one right in his face," that he was working coming down through the TCA. Those are the facts as we know them now.

As far as the conflict alert, at the time the New York TRACON did not have operative conflict alert. However, one of the things we are looking at is that the aircraft was given a discrete transponder code, and we believe did not dial in the correct discrete code which, if there was a conflict alert feature, would have nullified that redundancy.

Senator LAUTENBERG. So you are still looking at that, then?

Ms. GOLDMAN. Yes.

Senator LAUTENBERG. Could I ask you to let us know what you conclude on that because you say that there might have been a controller error although the system would have taken it backup had we had the conflict alert.

I am not sure that in your testimony you described the number of instances that have occurred the last period of time.

Ms. GOLDMAN. We have those figures as available from the FAA in term so the near-misses, and also the operational errors that have developed since the new system has gone into effect.

Senator LAUTENBERG. Do you have those?

Ms. GOLDMAN. Yes, I have those and I can submit them for the record. I didn't put it in the testimony, but I can share with you the numbers that I have.

Senator LAUTENBERG. These are year to date?

Ms. GOLDMAN. That is correct.

Senator LAUTENBERG. In each of these, do you analyze the human factor?

Ms. GOLDMAN. The near midair collisions are the self-reported as distinguished from the new operational errors which are computer generated.

Senator LAUTENBERG. I would be interested in those numbers.

Ms. GOLDMAN. I can add those figures for the record.

[The following information was subsequently received for the record:]

NEAR MID-AIR COLLISION REPORTS BY DEGREE OF HAZARD, FAA DATA

[1979 to June 1984] [1]

Year	Total reports	Critical		Potential		No hazard		Unclassified	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
1979	540	127	23.5	311	57.6	99	18.3	3	0.6
1980	568	118	20.8	319	56.2	122	21.5	9	1.6
1981	395	84	21.3	232	58.7	76	19.2	3	0.8
1982	311	56	18.0	191	61.4	64	20.6	0	0.0
1983	286	62	21.7	177	61.9	47	16.4	0	0.0
1984 [1]	94	23	24.5	58	61.7	13	13.8	0	0.0
Totals	2,194	470	21.4	1,288	58.7	421	19.2	15	0.7

[1] Data available as of June 18, 1984.

Note.—Near midair collision—instances when a report is received by ATC personnel from an aircrew member stating that a collision hazard existed between two or more aircraft.

Operational errors U.S. air traffic control system, 1981 to 1984 (1984 incomplete)

Year	*Operational errors*
1981	464
1982	370
1983	[1] 267
[2] 453 (7-1-83/12-31-83)	
1984 (5-31-84)	771

[1] Jan. 1, 1983, to June 30, 1983. Operational error detection program—started implementation July 1983, completed July 1984 air route traffic control centers only.

[2] July 1, 1983, to Dec. 31, 1983.

Note.—Operational Error—an occurrence which results in less than applicable separation minima between two or more aircraft, or between an aircraft and terrain or obstacles and obstructions as required by FAA Handbook 7110.65 and supplemental instructions. Obstacles include vehicle/equipment/personnel or runways.

Senator LAUTENBERG. Thank you.

Thank you, Madam Chairman.

Senator KASSEBAUM. Senator Humphrey.

Senator HUMPHREY. Chairman Goldman, you say in your statement that "The FAA also has described actions they would take to monitor controller stress and fatigue through programs involving facility flight surgeons. The Safety Board's continuing investigations, however, have cast some doubt about the actual effectiveness and implementation of these promised programs at the facility level."

Are you in a position, or can your staff tell us what programs were promised, and what were implemented, and why you have, as you phrase it, "some doubt about the effectiveness" of these programs.

Ms. GOLDMAN. They were programs that were supposed to be there to help the facility people detect stress. We found when we investigated the Miami incident—the two PanAm airplanes that there was not an awareness of that program nor a formal program implemented. I think they also found that in the investigation of the San Juan incident that was talked about.

I know from my own experience from going and visiting the centers and saying, "What have you done? I think it is something that is on the books, and I think that this is something that FAA intended to be done, but in my experience in talking to people this has just not been done.

Senator HUMPHREY. So the FAA has failed completely in its intentions described to you to take action?

Ms. GOLDMAN. I did not say that they have failed completely. What they have done is set forth on paper a program or some parts, as there are various parts of it. What needs to be done, perhaps, is to evaluate whether their intentions have been fulfilled at various facility levels to implement that which is on paper.

Senator HUMPHREY. The matter of controller stress is a very important matter, I am sure you will agree, and one about which controllers have complained to me increasingly. If I read you in your last statement, you are saying that the FAA has put its intentions on paper, but hasn't implemented in any concrete way.

Ms. GOLDMAN. Again, we have not gone through and evaluated every center. We usually get to look at these as we go in and investigate an incident. This is something that we always ask about, obviously, the experience, the hours worked, time off, and a variety of things like that. So we will continue to evaluate it. But based on the few that we have seen where that has been a factor, it does not appear that there is an understanding of the operation of that program at those facilities.

Senator HUMPHREY. "Where this has been a factor," do you mean where stress has been a factor in an incident or an accident?

Ms. GOLDMAN. We were concerned, for example, in performance and training, the hours worked and overtime, and such things, in the Miami case, that would concern us. There was nothing there to evaluate whether or not there is problem. In order to be able to tell if there is a problem, you have to be able to evaluate it.

Senator HUMPHREY. In connection with the Miami incident, were there any programs implemented by the FAA to deal with controller stress along the lines that they handed the Safety Board to believe would be implemented?

Ms. GOLDMAN. Mr. O'Rourke investigated that accident personally, so he can speak to that.

Mr. O'ROURKE. At the time, there were no programs in place.

Senator HUMPHREY. Stress was a factor in that incident, is that correct?

Ms. GOLDMAN. When you say, "stress," one of the things you are concerned about is the hours that are being worked overtime in trying to assess what it is that is stress.

Senator HUMPHREY. Right.

Ms. GOLDMAN. In that case, where that could have been a factor, or the conditions were a factor, there was nothing there available by way of a program to detect that in that center.

Senator Humphrey: There was nothing there to detect stress. There was nothing there for FAA to detect stress in Miami?

Ms. GOLDMAN. One of the things, for example, that you want to detect, if you begin to see a controller have a variety of incidents, operational errors or problems, is there a deficiency in training? Is there a problem that that individual is having stress, whatever that vague thing is? Somebody has to be able to identify that.

There should be a flight surgeon or someone who is capable of taking a look at that, that the people who are in a position to do something about it are alerted to the fact after there has been an operational error, and see if that operational error is in any way related to stress, or is it training, or what other factors might be bringing that error about so that you can correct them and not repeat them.

Senator **Humphrey**. I am not sure where all this leaves us. Has the Safety Board made recommendations to the FAA to monitor and deal with controller stress?

Ms. **Goldman**. Yes, we have, particularly after the second study. I can give you a print out of those recommendations.

Senator **Humphrey**. Has the FAA implemented any of those recommendations?

Ms. **Goldman**. Some of those recommendations have been acted upon. They have announced their intention to us to develop programs. In some cases, they have said they were in place, but they have led us by these two incidents to go back and take a critical look at whether or not those programs have been implemented as they say.

Senator **Humphrey**. So they have announced their intention.

Ms. **Goldman**. They have also announced the implementation.

Senator **Humphrey**. But you find, from your experience, that they are not in place.

Ms. **Goldman**. In some of the facilities that we have looked at, that is correct.

Senator **Humphrey**. I get complaints about not enough time off, about not being able to get vacation in desirable blocks or reasonable blocks, not being able to plan.

Do you know what the definition of stress is? My definition is being held responsible for some standard but not being able to control the environment in which you operate, or even the result, or being held responsible for the result, but not being able fully to control it.

That is what stress is, in my view, and that is what can be described as the situation where people have no control over their lives. They can't take vacations. When they should, they are called to duty at the last moment. They are just not in control of their lives, and that is one of the stressful factors in the life of an air traffic controller, only one.

Apparently the FAA has done very little, in your view, to deal with the problems of stress. What does the Safety Board intend to do about that?

Ms. **Goldman**. The Safety Board will continue to followup. Obviously, we are pretty good nags, and we have gone back to repeat some of the recommendations that were implemented in each of these incidents. As an incident occurs, one of the first things that we take a look at are some of the factors you talked about—what the work schedule is, time off, a variety of things like that.

We not only make new recommendations, but we continue to hold some of the recommendations in an open status, and we have a dialog with the FAA to try to get the programs that we feel are necessary implemented.

Senator HUMPHREY. These management problems are of long standing and do not seem to be diminishing to any degree from where I view things. How do you view that situation, the frustration on the part of the controller with their supervisors, what they see as a lack of communication, or at least lack of attention being paid to their opinions, the whole stress situation?

Ms. GOLDMAN. We have not done since our second study in 1982 an analysis, and even then we didn't do a full management review. We have looked at some of the management questions, again, as they affected the relationship in the work performance. I don't think that I would be competent to give you a management analysis of the FAA.

Senator HUMPHREY. Thank you, Madam Chairman.

Senator EXON. Madam Chairman, I know that we must move along, but since I restrained myself and I didn't use all of my 5 minutes, could I ask a 1-minute question?

Senator KASSEBAUM. All right.

Senator EXON. Certainly the Transportation Safety Board must have some idea about aircraft conspicuity, and the Administrator told us that we should refer that to the next panel, I would like to have your opinion now.

Ms. GOLDMAN. There has been a lot of discussion about that. There are experts in the field who have talked about that for a long period of time, and I really don't have an opinion. The Safety Board, at least in my 6-year history, has not addressed the question.

Mr. KELLY. I think aircraft conspicuity comes into play with slower aircraft. When you are involved with high speed turbojet transport aircraft, the see and avoid concept, part of which is the aircraft conspicuity, becomes considerably less. The ability for separation should perhaps lie with the air traffic control system, and not the see and avoid concept.

Ms. GOLDMAN. I think to rely on the painting of the airplanes to solve some of the problems that we have been talking about here today, it is not going to accomplish it.

Senator EXON. I am amazed that you people at National Transportation Safety Board think that this Senator's question implies that if we had the right color on an airplane, we could do away with everything else.

You are shaking your head, but the record will show that you said, no, because we have other programs.

What you are saying, then, I guess, is that you don't believe that the color of an airplane really makes too much difference especially with the magnificent new system that we are about to come up with?

Ms. GOLDMAN. I don't mean that at all, and I don't mean to treat that lightly.

As has been indicated, and as was indicated by previous witnesses, it has been looked at. Mr. Kelly said that the conspicuity question is something that we look at every time we have a collision or a problem in terms of when the planes could see each other, what the circumstances were, the color, the range, a variety of things, and that comes up obviously at every point. I will make it a point to go back and look at the question a little bit more myself.

Senator **Exon**. As of now, you have looked at the question, but you have no recommendation after all of these mid-air collisions and near collisions.

Ms. **Goldman**. In the time that I have been at the Board, we have not made a study of that per se, and that is why I asked what Mr. Kelly, with a longer history at the Board than my 6 years, recalls.

Senator **Exon**. I wish you would take a look at it.

[The following information was subsequently received for the record:]

National Transportation Safety Board,
Washington, DC, October 26, 1984.

Hon. J. James Exon,
Ranking Minority Member, Subcommittee on Aviation, Committee on Commerce, Science and Transportation, U.S. Senate, Washington, DC.

Dear Senator Exon: This letter is in response to a question you raised regarding airplane conspicuity during the Senate Aviation Subcommittee's October 1, 1984 air traffic control hearing. Specifically, you were interested in Safety Board findings and recommendations concerning the potential for use of paint or markings to enhance "see and avoid" procedures and thus reduce near midair and midair collisions. I promised that I would sent you a letter outlining our findings and recommendations.

As part of an accident investigation involving a midair collision between a North Central Airlines, Inc. Convair-580 and an Air Wisconsin, Inc. DHC-6 near Appleton, Wisconsin on June 29, 1972, the Safety Board issued Safety Recommendation A-73-31 as follows:

Advise the Board of the status of the FAA's evaluation project of April 7, 1972, on conspicuity research and, if that project has not been completed, take action to complete the project on a priority basis.

I have enclosed a copy of the accident report, as well as the report of this research project, titled "Survey of Thin Film Fluorescent Material" (FAA-RD-74-9). This report concludes both that there may be some gain in visibility and the associated enhancement of conspicuity in marking airplanes with fluorescent colors, and that the cost or practicality involved may be prohibitive. To the Safety Board's knowledge, the FAA has taken no further action with regard to airplane conspicuity.

It was a pleasure to appear before the Aviation Subcommittee, and I hope you will contract me if you have further questions regarding the Safety Board's activities.

Sincerely,

Patricia A. Goldman,
Vice Chairman.

Enclosure.[1]

Senator **Kassebaum**. Nor does it seem as if, I might just say, Senator Exon, that in the accidents that they are investigating would it have made any difference.

Senator **Exon**. If that is true, let's put that on the record.

Senator **Kassebaum**. Wouldn't you say that from the ones that you have outlined?

Ms. **Goldman**. There are a variety of things. First of all, as Mr. Kelly pointed out, IFR conditions and the speed of the aircraft are major factors.

I can go back through these, but a quick mental scan of the eight incidents we are talking about, I think, talking about the speed and a variety of other things, that would not have been a significant factor. But I will go back and take a look at those incidents and let you know if that would have been a factor.

---

[1] The enclosure was not reproducible and is in the Committee files.

Senator EXON. I would appreciate it if you would advise me, because it may have no difference at all. But I get the impression from your response that nobody seems to know.

Ms. GOLDMAN. We will take a look at each of these from the speeds and the operating conditions and let you know how it would affected those incidents.

Senator KASSEBAUM. Thank you very much, Madam Vice Chairman. We appreciate your testimony.

[The statement follows:]

STATEMENT OF PATRICIA A. GOLDMAN, VICE CHAIRMAN, NATIONAL TRANSPORTATION SAFETY BOARD

Madam Chairman and Members of the Committee, I want to thank you for this opportunity to present the views of the National Transportation Safety Board concerning the operational safety of the U.S. air traffic control (ATC) system.

Since its inception, the Safety Board has recognized the difficulties in preventing mid-air collisions, particularly as traffic levels have increased. It has been able to monitor safety aspects of the system by means of accident and incident investigation data which have provided indications of problems or potential sources of trouble.

In response to Congressional and public concern over the safety of the system following the August 1981 strike and subsequent firing of 11,400 trained controllers, the Safety Board has devoted considerable attention to evaluating the overall system as it rebuilds.

The Board conducted a special investigative evaluation of the ATC system during the three-month period following the controller walkout in 1981. The findings of that evaluation were published in a special investigation report. The most significant conclusion was that the system had operated safely during the immediate post-strike period, but that the continued safe operation would depend on the proper management of the total traffic in relation to the capability of the controller staff based upon experience and training.

In addition, the investigation revealed that ATC planning needed to take into account the needs and effects of VFR traffic, and that the FAA would have to develop programs to prevent degradation of controller performance due to stress or fatigue. The Board addressed these concerns in six recommendations which were sent to the Federal Aviation Administration on December 10, 1981.

The Safety Board continued its oversight of the ATC system and conducted another formal evaluation during October and November 1982 to assess the effectiveness of the FAA's efforts to rebuild the system to its pre-strike status. Although the Board observed that there has not been an increase in accidents related to the ATC system during the year following the strike, the evaluation prompted concern about the adequacy of the controller training program, the measure of proficiency, and the FAA's continued failure to address the potential for controller stress and fatigue.

The Board again submitted recommendations to the FAA which dealt primarily with the need to implement programs and quality assurance procedures to enhance and monitor controller performance. One of the most significant observations expressed in the Board's December 20, 1982 report, was that the FAA's actions to remove restrictions and permit an uncontrolled increase in traffic might proceed too rapidly.

The FAA has been generally responsive to the Safety Board's recommendations. For example, they have implemented automated programs within the ATC radar system to objectively monitor controller performance using as an index the number of times the aircraft separation standards are compromised. The FAA also has described actions they would take to monitor controller stress and fatigue through programs involving facility flight surgeons. The Safety Board's continuing investigations, however, have cast some doubt about the actual effectiveness and implementation of these promised programs at the facility level.

The FAA did impose restrictions on access to the ATC system during the first two years following the strike through the use of a slot allocation program for the air carriers and the general aviation reservation program for unscheduled traffic.

The ATC rebuilding effort has now been underway for about three years. Over 7,500 new controllers have been hired and the present controller staff of 13,300 is up to about 92 percent of the FAA's originally proposed staffing level. According to figures provided by the FAA, about 83 percent of the present staff are fully trained. It goes without saying, however, that the average experience level of the overall controller staff is considerably less today than the pre-strike staff.

During the buildup of the controller staff, the FAA periodically has relaxed the restricted access to the system. The general aviation reservations program was terminated in December 1983, and the program for the allocating slots to scheduled air carriers was terminated on April 1, 1984.

There are only six high density terminal airports where the numbers of scheduled air carrier operations remain limited. This limitation is based upon the maximum acceptance rate for air carrier operations at the airport rather than the air traffic control workload. While the FAA's central flow control facility is still operative to monitor dynamic peaks and limit scheduled departures based upon anticipated delays at certain destination airports, the ATC system essentially is operating on a free access basis today.

The lifting of restrictions for access to the ATC system has resulted in rapid escalation of the traffic under control. A recent FAA report shows that at 22 airports the average daily operations for January–June 1984 are up seven percent when compared to the same time in 1981. Individually, these statistics show Newark up 61 percent, Kansas City up 29 percent, and San Francisco, Boston and Minneapolis each up 20 percent.

This same FAA report shows that the average daily operations are up three precent in the 22 Air Route Traffic Control Centers (ARTCCs). However, individually these center data show the average to Kansas City up 17 percent, in Salt Lake City and Atlanta up 15 percent, and in Washington up 14 percent.

Therefore, at many airports and terminal facilities and at several ARTCCs, air traffic controllers, whose experience level is limited, are working more air traffic now than was handled by the system prior to August 3, 1981.

Although the Safety Board has not formalized another ATC evaluation project, it is continuing to oversee the system performance through the investigation of specific incidents and accidents. The Board is informed officially only of accidents, but it also will investigate any incidents which come to its attention where there is a significant compromise of standard ATC separation criteria between airplanes if either is under control of ATC and, particularly, if an air carrier aircraft is involved.

The Safety Board has investigated eight incidents and one accident involving ATC separation since January 1, 1984. This could be the result of increased system traffic or the result of increased user awareness of the potential for ATC saturation. The accident was the tragic mid-air collision of a commuter air carrier airplane with a corporate airplane at San Luis Obispo, California on August 24. A brief synopsis of the circumstances of the accident and the eight incidents is attached for the record.

While some of these investigations are still underway, the facts and circumstances that have been developed provide support for some of the concerns expressed by the Board in the special investigation reports. Other safety issues have been identified which are specific to an ATC facility or the circumstances of the particular occurrence.

An example of a specific ATC safety issue was the near mid-air collision between two wide-body airplanes over the Atlantic Ocean east of the coast of Florida on January 1. The issues involved the intra facility coordination procedures and the limitation of the over water radar coverage in Miami Center.

Another investigation involving a near mid-air collision of a U.S. Air Force KC 135 tanker and an Eastern Airlines Boeing 727 near Atlanta, Georgia on July 16, 1984 disclosed an undesirable and correctable characteristic of the en route ATC radar system software, which precluded display of one of the targets on the controller's scope at a critical time. The FAA already has taken action to resolve this software deficiency.

The issues of broader applicability raised during these investigations involve the lack of redundancy inherent in the ATC system to alert both controllers and pilots to developing conflicts between airplanes under ATC control and airplanes flying under visual flight rules, the potential for traffic flow which tax the capability of the relatively inexperienced controller staff, and even the potential to saturate the density of traffic per volume of airspace and overload the present ATC system hardward during certain peak traffic hours.

In addition, some of the investigations indicate that controller alertness to conflicts involving a mix of IFR and VFR aircraft may be degraded at times when on-the-job training is being conducted.

Controller staffing limitations and inexperience are not the only problems facing the ATC system today. System and airport capacity limitations, which lead to traffic saturation during peak times of the day, requirre a combination of exacting flow control measures and the redundancy provided by collision avoidance systems in order to ease the strain on the system. Some available solutions may be effective in the short term; but most, unfortunately, seem to be long term.

The FAA's announced National Airspace System plan (NAS) should go a long way toward resolving a large portion of these problems. This plan calls for a new, advanced and more automated air traffic control system. The next generation air traffic control system computers are designed to increase system capacity, detect and resolve traffic conflicts in the en route and terminal areas and between IFR and VFR traffic, provide enhanced traffic metering for en route terminal arrival/departure sequencing, and improve processing and dissemination of aviation weather information.

Another program included in NAS is the Traffic Alert Collision Avoidance System (TCAS) which will provide pilots with a clear, unambiguous warning of potential collision situations and suggested avoidance maneuvers. TCAS should, when implemented, reduce the number of both near mid-air and actual mid-air collisions.

The system is scheduled to be evaluated in a limited number of air carrier airplanes shortly, although it will not be available for general use until the later 1980s. It won't be completely implemented before the year 2000.

The NAS plan also outlines programs for improvements in airport capacity and efficiency through better airport design and planning, enhanced wake vortex detection and avoidance, use of dedicated general aviation runways at high density airports, and use of curved approach and multiple glide slopes using microwave landing systems (MLS). However, it will not be until the 1990s that we realistically can expect implementation and operational use of these new programs.

The Safety Board is concerned about near term solutions and, unfortunately, these problems are not easy to solve. We acknowledge that the FAA has taken some initiatives to address and resolve these problems, and we support these efforts. For example, the FAA has announced twelve programs to address the capability of the ATC and airport system to manage increased traffic. In addition, the FAA has announced eight additional initiatives pertaining to controller working conditions and air traffic management. All these actions can have an impact on alleviating some of the problems being experienced in the ATC system today.

The Safety Board remains concerned, however, that free access of traffic to the ATC system is leading to saturation problems which can be solved only partially by increasing controller staffing. If the only effective short-term solution is to reimpose steps to limit access to the ATC system, then the FAA must be prepared to bite this bullet.

The system also needs expanded capability to provide for collision avoidance between IFR and VFR traffic. At present the system provides backup for the controller through the "conflict alert" feature. This feature activates an aural and visual alert to the controller that a computer is predicting that the tracks of two IFR airplanes will put them in close proximity. This alert is not triggered by a mix of IFR and VFR traffic. The FAA should determine expeditiously if the present conflict alert computer software/hardware can be modified and expanded to provide this added protection for conflicts between IFR and transponder-equipped VFR traffic.

Finally, the Safety Board is concerned about the potential effect of two recent announcements by the FAA which propose changes to present terminal holding and separation standards. Until recently, the FAA has assured that traffic arriving in major terminal areas did not exceed airport acceptance rates by imposing "delays on the ground" at the departure airports.

The FAA has stated publicly that it plans to reduce these restrictions and permit up to 15-minute airborne holding in terminal areas. The Safety Board supports the "delays on the ground" concept as the inherently safer one, particularly until the experience level of the controller workforce is raised substantially. Airborne terminal holding should be reserved for those occasions when the traffic flow reaches or exceeds the destination acceptance rates because of unanticipated factors such as weather, navigation aid outage, change of active runway or other unexpected events.

We understand also that the FAA, in an attempt to increase terminal system capacity, is considering the reduction of the lateral separation standard for terminal control from the present three miles to less than three miles, perhaps two and one-half miles. The Safety Board believes that this or any other reduction in ATC system separation standards is not in the best interest of safety. The present standards provide the minimum safe separation; and any further reduction would erode the necessary safety margin in the system to protect against controller or flight crew deviation from the standard.

Madam Chairman, that concludes my formal statement on problems associated with the air traffic control system. In order to provide the Committee with a closer look at some of the specific problems, attached is a synopsis of the nine incidents mentioned earlier in my testimony.

APPENDIX

January 1, 1984, Two Pan American World Airways, Inc. aircraft 200 miles east of Miami, Florida

On January 1, 1984 about 200 miles east of Miami, Florida, two Pan American World Airways, Inc. airplanes nearly collided while under the control of the Miami Air Route Traffic Control Center (ARTCC). Both airplanes, a Boeing 747 and a McDonnell Douglas DC-10, were at their assigned altitude and were operating in accordance with ATC clearances issued by the Miami ARTCC. The two airplanes approached each other at a combined speed of 840 knots and they missed by 300 feet—a midair collision may have been averted only as a result of the evasive action taken by one of the pilots.

Four air traffic controllers had sufficient information from which they could have perceived the potential conflict and taken action to prevent it.

This investigation identified shortcomings in the Miami ARTCC's Quality Assurance Program concerning controller performance and the FAA's ability to monitor and detect the onset of controller stress and fatigue. The Safety Board issued six safety recommendations (A-84-69 through -74 and A-84-75 issued on July 16, 1984) to the FAA and one to the Secretary of Transportation concerning coordination, position relief briefing, and flight progress strip marking, quality assurance programs and radar-radio equipment capabilities.

May 9, 1984, Four Air Carrier Airplanes and One Corporate Jet Near Philipsburg, Pennsylvania

On May 9, 1984 there was a near-midair collision near Philipsburg, Pennsylvania (PSB) involving four air carrier airplanes and one corporate jet. These five airplanes were on approved Instrument Flight Rules (IFR) routes and altitudes issued by the ATC system. The traffic situation in which all five airplanes were converging toward PSB was as follows: a KLM Boeing 747 was proceeding southwest at 31,000 feet; a U.S. Air Boeing 737 was proceeding northeast climbing to 33,000 feet; a United Boeing 737, a Northwest Boeing 727 and a Cessna Citation all were approaching PSB from the east at 31,000 feet. As these airplanes neared PSB, four separate conflictions occurred in which the minimum ATC separation of 2,000 feet vertical and/or five miles lateral was compromised. The separation between U.S. Air and United was slightly less than 2,000 feet vertically and 1.2 miles horizontally when they passed; the separation between KLM and Northwest was 580 feet vertically and 1.8 miles horizontally; and the separation between KLM and the Cessna Citation was 1,400 feet vertically and 3.4 miles horizontally.

The Safety Board's investigation of this incident has focused on several safety issues pertaining to the air traffic control system. These ATC-related issues include controller staffing and management, the level of traffic in the system and the ability to provide adequate flow control of this traffic during peak periods, geographical boundaries and design of ARTCC control sectors and the transfer of control procedures used by controllers in the Washington and New York ARTCCs.

July 16, 1984, Eastern Airlines and U.S. Air Force KC-135A near Atlanta, Georgia

On July 16, 1984 a near-midair collision occurred between an Eastern Airlines Boeing 727-29, flight 92 (EA 92), and a U.S. Air Force KC-135A (FOWL 24) at 35,000 feet near Atlanta, Georgia. Both airplanes were operating on IFR flight clearances issued by the ATC system. EA 92 was operating as a regularly scheduled passenger flight from Miami, Florida to Chicago, Illinois, and FOWL 24 was on a celestial navigation training route at the time of the occurrence. The captain of EA 92 reported to the Atlanta ARTCC that the KC-135A passed directly in front of his aircraft at a distance of about ¼ mile.

July 24, 1984, Delta Airlines and Cessna N9343E Near Bayshore, New York

On July 24, 1984 a near-midair collision occurred between Delta Airlines Flight 927 (DL 927) and Cessna N9343E at about 6,000 feet near Bayshore, New York. DL 927, a DC-8-71, was operating as a regularly scheduled passenger flight from Boston to New York's John F. Kennedy Airport. The flight was operating on an IFR clearance and was under radar control of the New York terminal radar approach control when the captain and first officer observed a light airplane ahead of their flight.

The crew stated that they initiated an evasive maneuver by pulling their aircraft up and adding full power to avoid a collision with the light aircraft. Two flight attendants received minor injuries during the evasive maneuver.

N9343E, Cessna C-182R, was operating under visual flight rules (VFR) at the time of the incident. The pilot stated that the flight had departed the Islip Airport at about 9:30 and was climbing to 8,500 feet, his planned cruising altitude. The two pilots aboard the Cessna reported their first sighting of the DC-8 was at their 10 o'clock high position at an estimated 800-1000 feet above their airplane. They stated they were not aware of a near-midair collision until they landed at their destination. None of the occupant aboard the C-182R was injured.

The New York radar controller stated that he did not observe a radar target on the C-182R until after the crew of DL 927 reported the near-midair collision.

July 30, 1984, Piedmont Airlines and Henson Airlines near Baltimore/Washington International Airport

On July 30, 1984 the flight crews of Piedmont Flight 406 (PI 406) and Henson Airlines flight 1542 (HNA 1542) reported a near-midair collision while an their final approach courses to land at Baltimore/Washington International Airport (BWI). Both aircraft were operating on an IFR clearance and were under the control of the BWI south final radar controller. At the time of the incident the south final position was staffed with a radar trainee and an instructor controller.

The trainee had PI 406 and HNA 1542 on radar vectors toward an east landing at BWI and was issuing traffic advisories to both airplanes when the two flights were four miles apart.

At this time a control situation closer to the airport needed immediate action and the instructor took over the frequency; however, before he was able to resolve it the conflict alert alarm activated. The instructor stated that while he and the trainee were distracted by this alarm they must have missed the conflict alert (which had triggered between PI 406 and HNA 1542).

August 8, 1984, Delta Airlines and unknown twin engine airplane Near Casanova, Virginia

On August 8, 1984 the flight crew of Delta Airlines Flight 457 (DL 457) reported a near-midair collision with a yellow twin engine airplane at 15,500 feet about ten miles north of Casanova, Virginia (CSN). DL 457 was operating as a regularly scheduled passenger flight from Washington, D.C. to Atlanta, Georgia and was on an IFR clearance and under the radar control of the Washington ARTCC. No evasive action was taken by the crew of DL 457.

The twin engine airplane was tracked by the ATC system into the New York ARTCC airspace but the target was lost in the vicinity of Scarsdale, New York before identification was completed.

The controller stated that his workload was "not busy" at the time of the incident. He recalled seeing no VFR traffic in the vicinity of DL 457; however, after DL 457 reported the near-midair collision the controller stated he saw a VFR target proceeding northeast at 15,500 feet.

August 24, 1984, Wings West Airlines and a North American Rockwell 112, N112M Near San Luis Obispo Airport, California

On August 24, 1984 Wings West Airlines Flight 628 (WW 628) and a North American Rockwell 112, N112M, collided in flight approximately seven miles northwest of the San Luis Obispo Airport, California. WW 628 departed San Luis Obispo Airport under VFR and called the Los Angeles ARTCC for an IFR clearance. The Los Angeles ARTCC radar controller assigned the flight a discrete transponder code and established radar contact six miles northwest of the airport. The controller issued WW 628 an IFR clearance to San Francisco Airport and the flight read back the clearance correctly. The controller observed the flight progress on course for a short distance when he lost the secondary radar target. The controller called the pilot and requested him to reset his transponder. There was no response to this or subsequent calls and the controller was unable to regain radar or radio contact with WW 628.

N112M was operating VFR in the area. No flight plan had been filed for this flight. N112M was not in radio communication with the Los Angeles ARTCC. Both aircraft were destroyed by the collision, ground impact and fire. All fifteen occupants on board WW 628 and the two occupants on N112M were fatally injured.

The radar controller was a trainee who was receiving a radar certification check on that particular sector. He stated that he was unaware of any other traffic in the vicinity of WW 628 when he established radar contact with the flight. The trainee was being monitored by a fully qualified radar controller (FPL). The FPL stated that he saw other VFR targets on the radar scope but none were in the vicinity of WW 628. The supervisor, who was observing the certification checkout, stated that he saw no VFR targets in the vicinity of WW 628. No traffic advisories were given to WW628 concerning VFR flights.

The safety Board plans to conduct a public hearing in California as part of the investigation.

September 12, 1984, Eastern Airlines and Arrow Airways, Inc., 90 Miles NW of San Juan, Puerto Rico

On September 12, 1984 a near-midair collision occurred between Eastern Airlines Flight 516 (EA 516) and Arrow Airways, Inc. Flight 501 (JW 501) about 90 miles NW of San Juan, Puerto Rico. Both aircraft were under the control of the San Juan combined en route radar approach control (CERAP) facility.

EA 516, an Airbus Industries A-300 with 136 persons on board, was climbing to assigned altitude of flight level 310 (FL 310). When the flight was passing FL 217, the controller issued an amended clearance to EA 516 to maintain FL 220 and issued traffic information as "at your 10 o'clock position, one mile, at FL 230."

The traffic was JW 501, a McDonnell Douglas DC-8 cargo flight with a crew of three on board descending to 10,000 feet for landing at San Juan. After the controller issued FL 220 to EA 516, he instructed JW 501 to "climb and maintain FL 230 immediately." The flight data recorder (FDR) readout obtained from JW 501 indicated that the flight descended to 22,075 feet prior to climbing to its newly assigned altitude of FL 230.

The San Juan CERAP does not have a conflict alert feature associated with the ATC computer.

September 17, 1984, Lockheed L-1329 Jetstar and a Beech Kingair (C90) Near Newark International Airport

On September 17, 1984 the captain of a corporate jet, a Lockhead L-1329 Jetstar, reported a near-midair collision with a Beech Kingair (C9) at 5,400 feet shortly after departing the Newark International Airport. The flight was on an instrument flight rules (IFR) clearance, and was under the control of the New York Tracon's Newark departure controller.

The Beech Kingair was operating an on-demand air taxi and was climbing through the New York Terminal Control Area (TCA). At the time of the occurrence, the Kingair was under the control of the New York Tracon's La Guardia Departure Controller and had been issued a clearance to operate in the TCA along the flight's desired route while climbing to 8,500 feet.

Both controllers were experienced and training was not being conducted. The New York Tracon ATC computer does not have a conflict alert feature associated with it.

Senator **Kassebaum**. The next witnesses are a panel, Larry Burian, president of the National Air Transport Association, Ed Stimpson, president, General Aviation Manufacturers Association, and John Baker, president, Aircraft Owners & Pilots Association.

It is a pleasure to welcome all of you. I think, if there are no objections, we will hear testimony from all three and then we will ask questions. Why don't we start with you, Mr. Baker.

STATEMENT OF JOHN BAKER, PRESIDENT, AIRCRAFT OWNERS & PILOTS ASSOCIATION

Mr. **Baker**. Thank you, Madam Chairman.

I would like to tell Senator Exon, being another Cornhusker, I am not too wild about the results over the weekend either. I would like to think that red and white are the most visible colors.

Senator **Kassebaum**. It sure is when you are in the KU stadium.

Mr. **Baker**. There is a study done incidentally, Senator, on that issue. We had a meeting which the Administrator alluded to at the FAA about a month ago on "see and be seen" and midair problems.

During the course of that meeting, the FAA indicated that a series of studies had been done, and that dayglow colors, which traditionally were thought to be the most visible, are not. The white and the dark colors are the best contrast. Those studies are available. If you ask the FAA, they can send them to you.

Madam Chairman, I would like to submit our statement for the record, rather than take the Committee's title, and testify to what we thought was the purpose of the hearings, and that was to make recommendations as to what we can do about the delay problems with which we are confronted.

We have heard a tremendous amount of misinformation so far, I believe, which is going to obfuscate this record and create problems for general aviation that are not appropriate.

One, midair collisions are not a major problem when you lay it down against the 200 million operations a year. This year, we have had 11 fatal midair collisions, which is not a high percentage. I don't have the numbers, but the fatalities are not high because traditionally the accidents occur between two single pilot airplanes at West Overshoe, IN, as opposed to LAX or Newark.

The observations we have to make regarding the air traffic control problems with which we are currently confronted are:

One, the FAA has done an outstanding job. They are accepting 106 percent of prestrike traffic currently. I thought the Administrator did an unfortunate disservice to the FAA in one regard, and that was in justifying the 13,000 controllers on board.

I recall very vividly, following the strike, Administrator Helms, who had a high credibility with this committee, indicated that the study which they ran regarding the 17,000 controllers indicated they had about 4,000 people who were listed as controllers who were not actively working traffic, which means that they were operating with about 13,000 controllers at that time in terms of people actively working traffic. If indeed you accept that, and if indeed you accept the fact that the controllers are working more hours working traffic actively, then we have a higher staffing now than we had before.

The second observation is that in terms of near-miss, which seems to be a focus of some concern here, we are running at about half the prestrike level, which seems to me we are doing a heck of a job. In a system that has been in place for 25 years, we have made a quantum jump in terms of improvement over the last 3 years.

FAA is handling more traffic in the system with a far more sophisticated user group across-the-board, general aviation having become a full-fledged member of the fraternity of all weather flyers for a number of reasons, one of which is deregulation. Deregulation has put states like Nebraska, Kansas, and New Hampshire out of the airline business essentially, and general aviation has filled that void that was there for on-demand transportation.

The points, in terms of why we are having delays at the hubs right now are again pretty straightforward. One is a social decision which was taken 10 to 15 years ago and that was that we were not going to build major new airports, and we were not going to expand the existing ones for environmental reasons. We are now paying that price. That was one of those unfortunate decisions with which we indulge ourselves nationally.

If indeed there is a question about that, I think all we have to do is to take a look at the bill passed by the Congress in 1982. We are going to spend $20 billion over the next 15 to 20 years to modernize the air traffic control system. It is obviously not currently expandable or contractable at will.

The second area, of course, is runway acceptance rate, which is immediately tied to the question of airport capacities. If we are going to have more airplanes, we have to have more runways because neither Congress nor the FAA can repeal vortices and that determines the number of airplanes that can land on a given runway in a particular time, or at least that is the criteria currently applied by FAA.

You couple that with deregulation, and the influx of new carriers who are looking to make quick money in high density marketplaces, the People's Expresses of this world, and you have a demand which didn't exist pre-strike. That demand is not going to go away absent economic pressures or scheduling requirements by the FAA.

We have irrational scheduling practices where we see 30, 40, 50 airplanes scheduled to land and depart in 1-minute increments at O'Hare, JFK, or LaGuardia. We know that that builds in delays because it takes 1, 1½, or 2 minutes to move each of those aircraft. So before the first airplane's engine is started, you have delays built into the system.

We also know, contrary to the rhetoric in this unfortunate dialog that has been going on, that 60 to 70 to 80 percent of these delays are weather related. So we are talking about a small percentage of the delays in terms of other solutions.

The third part, of course, is hub and spoking, which was a unilateral market decision made by the air carriers, apparently based on the perception that you can expand and contract both the air traffic system and airports at will. Obviously, we know you can't do that. It is a long, tedious, capital intensive process to do that. Simply because somebody says, "We want to run three or four hundred flights out of Newark," which for many years was a very sleepy airport, doesn't mean that you can 400 flights a day out of Newark.

I think that to you address it in a fashion of castigating the FAA is both unfair and inaccurate, and it doesn't have anything to do with solving the problem as far as we can see, at least.

We have a number of recommendations which we think will make some inroads into this problem. One is to establish a separate FAA office to monitor the capacity on a regular, real time basis, so that we can access that, find out where the problems are, and at least counsel that segment of the general aviation community who accesses those hubs to avoid them during this particular timeframe.

We believe that there should be a national program focusing on the parallel runway, to which Senator Goldwater alluded. It doesn't need to be an 11,000-foot/36-inch thick piece of concrete, however. Four to five thousand feet will handle a high percentage of both GA and commuter airline traffic.

Indeed, Washington National, one of the more maligned airports in this country, I think is a classic example of how additional runways do indeed enhance capacity. It is not one of the airports that is currently in this dialog. Although it is the most poorly built in terms of construction, and it has more airspace constraints than any of the other airports, it still handles a high percentage of both GA and air carrier traffic with a minimum amount of problems, and that is because we have two other runways on that airport that general aviation traditionally uses, and the air carriers use the longer, north-south runway.

If we had another four or five thousand foot runway on these other airports, GA would unload the hub airport long runways, and you would have a dramatic, almost overnight, increase in capacity. These runways can be built in less than 5 or 6 years, as opposed to the larger and heavier runways.

You could relieve traffic pressure on reliever airports at major hubs and the hub airports by having a national program in which DOD participates, for a change, to access some of the military airports in those hub areas because they all have facilities that will accommodate high performance aircraft.

Yes, it would represent a burden on the military, but it is, as far as we are concerned, a public facility in a time of emergency. We do have an emergency in terms of capacity which is going to be with us for some time. I believe that we could make dramatic inroads if we had access to some of the military airports, again, just in the hub areas.

There was an abortive study which was ordered by this Congress to identify military airports for joint use sometime back, the results were pitiful in terms of no effort being made by the Department of Defense to meet the Department of Transportation halfway, and as a result they gave us Scott Field in the middle of Illinois, and one of the airports on one of the out-islands in Hawaii out of all the existing airport facilities in the country that the military operate.

We need real time information for flight planning purposes for the GA user, again a significant user of the system, which we can pass on to the pilot community through the phone systems if indeed it is made available to us. We have a commitment from FAA that this will become available.

We believe that the FAA Administrator should establish an executive group of some sort, airline executives, general aviation people, and Members of Congress to sit down on a regular basis and discuss the problem in terms of solutions as well as inroads that we can make to address the problem.

We think, in terms of technical things that can be done, more city-pairs should be added to the existing tower en route system, which will unload the en route air traffic system, particularly low altitude, short flight traffic.

There are, obviously, some procedural matters which could be addressed to move some of the nongermane traffic, if you will, out of the feeder fixes that are used for the hub airports. Newark is a classic. Everybody goes across Solberg to get to both Teterboro and Newark. It just seems that there could be some innovative steps taken procedurally to free up that airspace.

There are currently on the table at the FAA a number of very positive recommendations which came from the industry, both airline and general aviation, a year ago. An industry task force on airport capacity improvement and delay reduction was constituted, worked very aggressively, came forward with some very positive recommendations, and very little has come out at the end of the pipe at the FAA in terms of implementing these. We urge that those be revived and looked at.

Obviously, the national airspace review, which has been going on regularly and consuming the time of all the people in the aviation community, also has made a myriad of recommendations, I think in the 500 numbers now. Those should be looked at expeditiously to see we can't find some positive things out of them in terms of higher capacity. The examples include, reduction in traffic separation criteria, independent parallel, instrument approach spacing reduction, and computerized traffic management.

We believe, from our perspective that in addition to the runway program on the hub airports that more money should be pumped into both relievers and other existing airports in the hub areas. We are now in the posture in most major city areas where we have to relieve the relievers.

We have more traffic at the reliever than we have at the hub, and we have a greater disparity in terms of the mix of traffic at the reliever. You have the Lears and corporate jets, and you have the J-3 cubs flying there, and as a result most of the people flying higher performance aircraft are going to the hub airport to avoid that kind of congestion.

Indeed, going into most of the relievers on a Sunday afternoon is like flying through the battle of Britain. If you don't have an airplane that won't slow down under 100 knots, it usually takes you five or six or seven cracks to get on the ground.

We need to look at that second ring of airports out there where the lower performance aircraft will have an incentive to move off of the reliever and out, and then free the reliever up for the higher performance aircraft. We believe again that this is something that could be done quickly if we got at it.

The last point we would have is to install additional ILS's at reliever and commercial service airports to siphon off IFR traffic from the primary airports. I use the words "instrument landing systems" advisedly. MLS, the microwave landing system, may indeed be the landing system of the future.

Unfortunately at this point there is no criteria for the airborne receivers. We have no airborne receivers, and MLS will not help, and ILS currently will give immediate relief because we have 132,000 aircraft flying with ILS receivers at this time, including every airplane using hub airports.

So if we had instrument landing systems at the relievers and some of the other outlying airports, I think you would see a dramatic drop off in the demand at hubs because currently, again, if you are flying IFR and it is hard IFR, you are going to go into the airport with the instrument landing capability that you need, and that is generally the hub airport. However, traffic does drop off dramatically during IFR at the hubs, and usually there is not as big a congestion problem as there is when it is VFR.

Those are really the recommendations we have. We forwarded these to Secretary Dole and to Administrator Engen. We are obviously awaiting a response as this was Friday.

We believe, as I say, that it is unfair at this point to castigate the FAA in the sense of poor performance. I think performance has been phenomenal based on what they started with, the rebuilding that they have had to do, and the increased demand that we have experienced in the ensuing time frame.

Senator **Kassebaum**. Thank you, Mr. Baker, we can always count on you for blunt and very thoughtful comments.

I really had not thought anyone was castigating the FAA because I do think that we are all very cognizant here of the extraordinary demands that they have had, and I would agree with you they are doing an exceptional job in meeting them.

The purpose of this was just, as I said, to study the current operational status of the system and try to sort through some of varying opinions, and we value your observations highly.

Mr. **Baker**. I suppose that we probably had more feedback since we represent 273,000 pilots, about 60 percent of whom are instrument rated.

Senator **Kassebaum**. We get quite a bit of feedback from your pilots as well.

Mr. **Baker**. We try to make sure that you are informed, Madam Chairman.

[The statement follows:]

STATEMENT OF JOHN L. BAKER, PRESIDENT, AIRCRAFT OWNERS & PILOTS ASSOCIATION

Madam Chairman, there are two assumptions that the Aircraft Owners and Pilots Association (AOPA) believes all of us can agree upon when discussing the recent airport delay situation. First, that we are talking about a limited number of airports, even a limited number of runways at a few peak periods during the day. None of the six airports discussed in the recent airline scheduling committee meetings exceed known airport capacity limitations twenty-four hours a day. The second assumption is that Mother Nature is the major contributor to system-wide ATC delay. The August 1984 percentage of weather-related delays was 60%. No amount of quibbling among user segments as to who causes the problem will affect this significant contributor to the limitations of aviation capacity.

AOPA believes the problem of the peak-time congestion was created by two unrelated events. First was the social decision a decade ago that resulted in no significant expansion in airports for environmental reasons. The lack of airport expansion includes improvements necessary to increase capacity on existing airports as well as the development of strategically located new airports in major urban areas.

The second decision occurred in more recent years was spawned by airline deregulation; the irrational and unilateral decisions by airline companies in their scheduling practices and in utilizing the "hub-and-spoke" concept without regard to existing and near-term airport and ATC system capacity limitations. Current airport facilities and ATC system terminal environments simply cannot expand or contract to meet the whims of demands that are conjured up, ignoring known limitations.

Contrary to recent allegations, general aviation is not the cause of airport congestion. Nor does general aviation even make a significant contribution to the problem. The facts are clear. To begin with, on the average, weather factors cause over two-thirds of air traffic delays. There probably isn't much we can do to correct that.

Beyond that, however, from July 1981 to July 1984, airline activity at the 22 "pacer" airports, which include the "big six," was up five percent to 15,510 daily operations. According to FAA data, commuter and air taxi operations were up 47 percent to 5,170 operations. General aviation and the few military operations counted with it were down 27 percent to only 3,938 operations.

We cannot ignore the fact that airline scheduling is inadequate: There is simply no way Chicago O'Hare can accommodate twenty-six operations at exactly 9:15 a.m., but that's what was scheduled! Nor can Atlanta Hartsfield handle twenty-six operations at exactly 5:00 p.m., but that's what was scheduled!

The carriers scheduled seventeen operations at exactly 8:00 a.m. at LaGuardia; fourteen operatations at exactly 8:30 a.m. at Newark; sixteen operations at exactly 9:00 a.m. at Denver-Stapleton; and nineteen operations at exactly 4:30 p.m. at Kennedy.

Conversely, general aviation's actual operations averaged only seven, not per minute—but, per hour during peak times at the six airports. In fact, general aviation already avoids peak times, when possible.

The recent comments drawing a line between the importance of "public sector air transportation" and "non-commercial air transportation" is both unfair and inappropriate. First, there is no such thing as "public sector air transportation." The stockholder-owned commercial entities called airlines are not public utilities. Second, the notion that priority be given to aircraft carrying the "most" or "the largest number of" passengers establishes a completely unreasonable situation that would lead to chaos and disservice to many. Does a Boeing 737 loaded to 90% have priority over a Boeing 747 with a 25% load factor? What about aircargo, should those operations use another airport? And what about the small communities served by general aviation, the commuters, or even the major carriers? Do those communities store up their demand until they can fully load a Boeing 727 before they are granted—or sold—an opportunity to use publicly-funded transportation facility?

Most AOPA members simply do not use the busiest airports in the major terminal areas for a wide variety of reasons. Yet, many of our members do depend upon ready access to those areas for both their livelihood and convenience. The increased congestion at the major airports in recent years has been a matter of growing concern for them, as much as any other group. For this reason, AOPA accepts the responsibility of owing the aviation community—and specifically the government which operates the ATC system and establishes the airport policy—constructive and reasonable suggestions on how to fix this problem which affects us all. Some of our suggestions are old, some more contemporary, and some are new. But all require immediate attention and action, since, as mentioned earlier, the delay problems have been a while in the making and the solutions are overdue. Those suggesting that a completely funded National Airspace System Plan is the answer have missed the mark. Runways and airport facilities are the need.

To the immediate problem of matching airline demand with finite capacity, the recent work of the airline scheduling committees was the proper move. The participants in that effort are to be commended for their meeting of a difficult task. However, we anticipate that their solutions will benefit the aviation community momentarily at best.

AOPA has the following specific recommendations for high priority considerations:

1. The FAA should establish an office dedicated to monitoring capacity at the major terminal areas and tracking capacity enhancement programs. This office would see to it that capacity was not exceeded through trend analysis and close coordination with air carriers to ensure that expansion plans were adequately forecast and coordinated. Another important function of this group would be to serve as a focal point and advocate for all proposed capacity enhancement schemes. In this role, it would coordinate the efforts of the disparate sections of the agency.

2. FAA Air Traffic Operations personnel should identify and make available to users information on congested areas and airports. If this information was published in a timely manner, users could plan flights to avoid these bottlenecks to the benefit of themselves and the system. AOPA and other user groups will make this information known to their members on a regular basis in an effort to reduce congestion and delays.

3. Every effort should be made to add additional city pairs to the existing tower en route system. This will not only reduce ARTCC work but will reduce the amount of internal coordination required by more traditional routing.

4. FAA should establish an Administrator's Executive Committee, comprised of presidents and CEOs of major aviation trade associations, air carriers and military interests for the purpose of meeting quarterly to discuss various problems and areas of concern. An open and continuous dialogue of this kind should help identify and address various problems before they become epidemic.

5. The FAA should assign a high priority to existing recommendations and initiatives designed to reduce congestion. The Industry Task Force on Airport Capacity Improvement and Delay Reduction developed many good ideas in early 1983. These should be energetically pursued. Reduction of longitudinal and lateral separation, independent parallel instrument approach spacing reduction, conduct of converging

instrument approaches, computerized traffic management, and other procedural and material initiatives show great promise for capacity enhancement but must be pushed if they are to come to fruition.

6. Additional Instrument Landing Systems should be installed at reliever and commercial service airports to siphon off IFR traffic from primary airports. The lack of precision approach facilities at relievers and potential relievers drives general aviation aircraft to the primary airports. MLS will not accomplish this end; additional equipment requirements will make MLS unattractive to the general aviation user, who is already equipped to fly ILS.

7. Immediate Airport Improvement Program funding must be provided for hub area reliever and potential reliever airports. These airports hold the key to unloading the overtaxed relievers, too! The key to moving some of the primary airport demand is offering equal or better service to those users who seek access to a hub area but prefer not to use the primary hub airport.

8. The major air carrier-served airports must, where possible, have additional runways constructed. These new runways could be 4000 to 5000 feet in length and be placed to optimize the flow of non-transport category traffic. These, coupled with high speed turnoffs and additional taxiways, will go a long way toward solving the airport capacity problems. This can best be accomplished by earmarking a minimum of fifty percent of AIP funding for primary (major air carrier) airports to be used for capacity enhancement. This proviso should be imposed on the AIP through fiscal year 1987, the expiration of that legislation.

9. A number of major airports in hub areas are currently being under-utilized. Many military airfields near major metropolitan areas should be designated as joint-use facilities. Military airfields near Chicago, San Francisco, Miami, Los Angeles, Dallas, Philadelphia, Atlanta and Washington, DC, are adequate and suitable for joint-use. The time-worn excuse of national security is simply out-dated and unacceptable. Use of these airports by civil aircraft would reduce pressure on both primary and reliever facilities at the major hubs.

Senator **Kassebaum**. Mr. Stimpson.

STATEMENT OF EDWARD W. STIMPSON, PRESIDENT, GENERAL AVIATION MANUFACTURERS ASSOCIATION

Mr. **Stimpson**. Thank you, Madam Chairman.

I think you will have an opportunity to do something about the air traffic control problem we have talked about here today. As you know, the Senate appropriation levels have been included in the continuing resolution, which will be voted on by you shortly. We certainly hope that you support that $1.492 billion for facilities and equipment, and the $987 million for airports.

Over on the House side, the continuing resolution, of course, is at last year's levels. If we are going to proceed with many of the things that we have talked about here today, we need those levels. Hopefully, you will support Senator Andrews and that subcommittee in the full committee for going ahead with the recommendations they have made for going ahead on funding.

We are going to sound a little bit like a choir in many of the things up here today, and I will just briefly touch on them. We certainly believe also that the FAA has done a very commendable job in providing service to the air traffic users considering the very disruptive effects of the PATCO strike, the long recovery period required, and the inherent limitations on aging equipment.

In all, the air traffic control system has worked remarkably well. Our member companies that fly business aircraft regularly continue to report the excellent service that they are receiving from controllers.

Today, we have heard a lot of talk about midair collisions. As Mr. Baker pointed out, and I think it is important that we keep this perspective, the fatal accidents in general aviation in midair account for about 3 percent. The big killer in general aviation, of course, is weather, with about 40 percent of the accidents being weather related.

So we do not have a perfect system. I think we all recognize that. There are some things that we can do to correct it. The see and be seen principle—keep looking—some of the questions that have come up here today are very valid still. There is no substitute today for the eyeball, unfortunately.

Mrs. Goldman pointed out some recommendations, I think, on conflict alert for IFR/VFR traffic, which certainly bear looking into and we would hope that the FAA computer capacity might be able to handle a couple of the recommendations she made here today.

Further along the line in T-CAS, we are all working very hard in collision avoidance. Within the RTCA forum standards are being developed, although it is a longer term, there are efforts going in this direction.

General aviation traffic, basically, is down at major hub airports from prestrike levels. This, I think, affects the conscious decision of operators and pilots to use reliever airports. You take cities like Denver, where traffic is down about 46 percent, meanwhile the traffic at the two outlying reliever airports is up by 19 to 20 percent at each. Atlanta has a similar story.

So I think it is a proven fact that where we have good reliever airports, with instrument landing systems, general aviation will use them. But we do need to have renewed emphasis on a reliever airport program.

Your committee put 10 percent of the funds in the 1982 act to go to reliever airport, or reliever/reliever airports as Mr. Baker characterizes the need. To date there have been significant developments in this area, but I think we all feel that we need emphasis in this area to move ahead on a very active reliever airport program.

In addition, we do need to review the air traffic control procedures and utilization of expertise. In some areas like Teterboro, we have heard comments from pilots who say that there has got to be a better way of regulating traffic up there so there is not the interference between the airports that there sometimes exist today.

I understand FAA has this as a priority project, seeing that there is a more expeditious, more efficient way of handling traffic, not only at that airport but other airports around the country, that could help increase capacity in these areas.

Mr. Baker talks about the use of nonstrategic military air bases. We have airports all over the country—Fort Belvoir out here, Glenview out of Chicago, Willow Grove out of Philadelphia—underutilized, nonstrategic, nontactical bases that could be used for civilian capacity today. To move ahead and take the capacity that is available today would certainly be a big step forward.

I think all of us in general aviation are pledged to work in cooperative programs to help alleviate our current situations. We have all been to the FAA think-tank meetings in the air traffic control areas. We are continuing to work with them, and we would like to see them implement their think-tank also on a local basis so that we get a better interface in the local areas as well as the national.

We will cooperate and assist them, however, we do want to make sure that any allocations or any restrictions which are placed on any segment of aviation are really necessary and are not just cosmetic approaches to solve a temporary problem.

In conclusion, I do want to reiterate our determination to cooperate in helping solve the problems ahead.

[The statement follows:]

STATEMENT OF EDWARD W. STIMPSON, PRESIDENT, GENERAL AVIATION MANUFACTURERS ASSOCIATION

The General Aviation Manufacturers Association appreciates the opportunity to appear before this Subcommitee on the status of the air traffic control system.

We believe the FAA has done a commendable job in providing services to air traffic system users. Considering the disruptive effects of the PATCO strike, the long recovery period that has been required and the inherent limitations in aging equipment, the air traffic control system has worked remarkably well.

Obviously, no system is perfect. Air traffic delays in recent months have been an aggravation to countless users, but it is important to recognize that the majority of these delays have been concentrated at six airports. Meanwhile, at hundreds of other airports, traffic has moved relatively smoothly.

Most of our member companies regularly fly business aircraft in the air traffic control system. We continue to get many positive reports that they are being handled expeditiously and well. For the record, I would like to insert a recent letter the Vice Chairman of our Association, Mr. Frank Adams, wrote to the Air Traffic Manager at the Baltimore/Washington Airport. This letter points out the excellent service that was rendered by the FAA personnel.

Many of the near-term solutions to the congested airport problems are somewhat analogous to pain killers; they provide temporary relief but do not effect a cure. The afflictions affecting our airport/airway system are many and complex. The prescription is compliance with the Airport/Airway Improvement Act of 1982, which this subcommittee authored. The Act authorizes funds for the implementation of the National Airspace System Plan and the National Plan for an Integrated Airport System which are vital to the long-term health of the airport/airway system. The enactment of appropriations to meet these objectives is of the highest priority, and failure to do so invites continuing congestion and confusion.

Today, however, we would like to concentrate our comments on two areas: the role of general aviation in the national air transportation system and some near-term suggestions to help alleviate congestion and delays.

GENERAL AVIATION, CARRYING OVER 100 MILLION PASSENGERS ANNUALLY, IS A MAJOR PARTNER IN THE AIR TRANSPORTATION SYSTEM

Many of our passengers are traveling to or from airports not served by airlines, and a significant percentage of business flights to airline airports are for passengers making connections with the airlines.

Important business transportation, high priority cargo and small package service, and the life-saving efforts of medical air transportation reflect just part of modern business aviation. And our role in preserving small community air service to larger cities is another important element in the post deregulation era. In summary, general aviation is doing the nation's business just as the airlines are.

GENERAL AVIATION TRAFFIC DOWN AT MAJOR AIRPORTS

General aviation activity at most of the large air carrier airports has actually been significantly reduced from pre-strike levels. This reflects a conscious effort to avoid the delays associated with congestion—delays which also frustrate the inherent convenience and flexibility of general aviation. Our users have clearly demonstrated their willingness to use reliever airports; nowhere is this more evident than at Denver and Atlanta.

RENEWED EMPHASIS NEEDS TO BE PLACED ON A RELIEVER OR AIRPORT PROGRAM

The facts demonstrate that reliever airports play a significant role in alleviating traffic at the major hub airports. In 1982, this committee, in its airport authorization act, wisely specified that 10 percent of the airport grant funds should be directed towards reliever airports. To date, there have been some significant developments in several major hub areas, but much more needs to be done. In some cases, we need to have reliever airports to relieve the relievers. We would urge the Secretary and the Administrator to assign reliever airports even a higher priority and call for a renewed emphasis among federal, state, local and private interests.

For the last three years, our association, in cooperation with ATA and NBAA, has sponsored the Reliever Airport Program. Richard Dinning, Vice President of USAir, has been the director of this program and has personally visited each major congested location on several occasions to promote reliever airport development. Two areas in which the most significant reduction in general aviation traffic have been made are in Denver and Atlanta. While traffic is down at both these metropolitan airports, the reliever airports have experienced significant growth. These two hub areas demonstrate clearly that the reliever concept works.

REVIEW OF AIR TRAFFIC CONTROL PROCEDURES AND UTILIZATION OF LOCAL EXPERTISE

The FAA should implement further programs of planned enroute holding, and also review local air traffic control procedures. Planned enroute holding would ensure that airport capacity is not wasted because there is no pool of waiting aircraft when capacity unexpectedly becomes available.

Most of the increases in capacity that could improve the system, however depend upon thorough FAA analysis of local traffic procedures and conditions. In recent weeks, for instance, considerable press attention has been given to the impact traffic at Teterboro and Westchester County airports, both designated relievers, has an other New York airports. Clearly, a high priority item for the FAA should be to redefine traffic procedures at these airports to achieve optimum capacity. This sort of detailed, local analysis at every busy airport is where the vast majority of capacity increases in the immediate future will be found. All levels of FAA management should listen carefully and act promptly to suggestions for capacity increases that come from active controllers in filed facilities. Their knowledge, skill, and professionalism are the major sources of near-term capacity increases recommendations. Bureaucratic inertia must not be allowed to stand in the way.

The FAA's plan for local "Think Tanks" between controllers and local users is an excellent idea that should be given high priority. The success of the program, however, will depend upon how good the FAA is at implementing the ideas generated in this process.

RENEWED EMPHASIS ON JOINT-USE OF NON-TACTICAL/NON-STRATEGIC MILITARY BASES

The joint-use of non-tactical military airfields—especially in the hub areas—has the potential for economical solutions to the growing congestion problem. A recently completed DOT/DOD study is most disappointing. It reflects the Defense Department's continued resistance to joint utilization; only four of many bases were identified for possible joint-use. We would hope that common sense would soon prevail and that joint-use would be allowed at several of these non-strategic, under-utilized fields.

COOPERATIVE PROGRAM TO HELP ALLEVIATE SYSTEMS DELAYS BY AVOIDING BUSY SECTORS

Virtually the entire industry has pledged to help avoid the so-called "red sectors" if we know when and where they occur. The National Business Aircraft Association has proposed plan called FASST to avoid aviation high density areas. Cooperative voluntary efforts such as these between government and industry can be most helpful in solving the problem. Other suggestions emanating from the "airline-air traffic think tank," such as advance filing of flight plans, are still being discussed with the FAA.

IMMEDIATE INSTALLATION OF INSTRUMENT LANDING SYSTEM AT QUALIFIED AIRPORTS

FAA's suspension of instrument landing systems (ILS) installations has impacted the capacity and efficiency of our ATC system. The justification for this decision was to enhance the phase-in of the MLS system—a program that could take up to ten years. We have identified some 37 airports that had previously qualified for ILS equipment, have no other ILS approach, and were dropped from the ILS installation list. GAMA and five other aviation associations representing airlines, pilots and manufacturers wrote to the FAA in February, 1984, recommending ILS installations at these locations. This equipment would fill an urgent need which could not be met by MLS, since most of the nation's aircraft do not yet have MLS equipment. We still support this recommendation.

In April 1984, an even larger list of aviation representatives wrote to the FAA with recommendations regarding the FAA's MLS installation plan. Most of the airports identified for initial installation already had ILS equipment. I am submitting a copy of both of these letters for the record. The committee may be interested in knowing—just as we are—why neither of these letters have been answered, and why the FAA's ILS and MLS programs have not been modified.

HIRING OF ADDITIONAL CONTROLLERS

In our view, one of the most urgent requirements is the hiring of additional FAA controllers. Recent testimony by the Administrator indicates that the workforce is still about 1000 below the required level. We would strongly recommend that this Committee urge the FAA to reach its stated staffing level of 14,306 at the earliest possible date. Increased recruiting, accelerated training, retention of annuitants and possible use of part-time controllers are viable options available to the FAA.

CONCLUSION

I want to reiterate our determination to cooperate in any meaningful programs that may be implemented to enhance the efficiency and safety of the ATC system, provided they do not discriminate against general aviation and really help solve the problem. "Cosmetic fixes," which penalize the users without really providing relief, must be avoided. We sincerely appreciate the responsible role this subcommittee continues to play in seeking fair and workable solutions to our nation's aviation problems.

Thank you.

STATEMENT OF LAWRENCE L. BURIAN, PRESIDENT, NATIONAL AIR TRANSPORTATION ASSOCIATION

Mr. BURIAN. Thank you, Madam Chairman. Thank you very much for the opportunity to be here today.

I would like to broaden the definition of "commercial" that was given earlier. General aviation, too, has commercial operations. That is not a term restricted to that of the airlines.

For instance, the members that I represent, practically all of them are small businesses, and they are engaged in general aviation commercial air transportation, both from the on-demand air taxi and the commuter airline aspects. Plus, our membership does provide practically all of the ground service and support for all general aviation, much of the airlines, and the Department of Defense aircraft.

I would like to put our association on the record as well in complimenting the Federal Aviation Administration for the tremendous job they have done in the recovery of the system since 1981 when the unfortunate air traffic controller strike took place. We think they handled an impossible situation and they did a good job.

From the viewpoint of our membership, who are frequent users, including myself as a frequent user, not only as an airline passenger, but as a general aviation pilot, I can tell you that the system is as safe, perhaps safer, and as far as courtesy is concerned, it is unparalleled today when compared to the prestrike situation.

I would like to deviate a great deal from my prepared remarks and just get to the heart of the matter. I think Mr. Stimpson indicated that our testimony sounds like a chorus, I will go on to say that it almost sounds like we are singing in rounds today.

The situation that we face today, in our opinion, deals with airports, not necessarily the en route structure of the airspace system, and the immediate terminal area of airports. Where does the fault lie? We can all point the finger of blame, from our viewpoint, to many Members of Congress—except for this committee in particular, as well as other selected people from Congress—who have neglected to adequately fund airports, have neglected to adequately fund the facilities and equipment to keep the airports and the airspace as a viable system, and to keep pace with the growing public demand for air transportation.

Senator Humphrey, you hit the nail right on the head. Our trust fund has been held hostage to our Federal budget, and I think that it is time that that situation be changed. To emphasize or amplify what Mr. Stimpson said, this is an opportunity today to change that situation around.

We all know the problems. There is no sense in duplicating everything that has already been said here today. I would like to just point out a couple of items that we place a great deal of emphasis on. They can be summed up by a story I heard a few years ago from a railroad executive making a public address before an aviation group.

He said that in our business, the railroad business, we have one or two tracks coming into the station, the terminal, if you will, and we branch out on many tracks. But you in aviation, you come in on many tracks, and then you narrow that down to one or two tracks.

He said, you have it all backwards, pretty soon you are going to run out of track, and that is indeed what has taken place here today. We just don't have enough runway ends to satisfy the capacity of the growing demand for air transportation in this society.

We recommend, strongly recommend full funding now, and expanded funding in the future to provide more runway ends. Along with the funding needed is going to be increased funding for equipment to maximize the utility of those runway ends, notably, the instrument landing systems. In addition, we would like to see a wider use of automated weather observation stations, those are very, very important to keep viability in the system.

I think that pretty well sums up everything that we have to say, Madam Chairman, but I would like to add one more point.

Back in 1981, when general aviation was faced with the general aviation reservation plan, or the GAR system, if you will, we recommended to the administrator a system to monitor the capacity, some kind of a system to do that job. There was somewhat of a feeble attempt to do that at that time, and I understand the constraints.

I would like to place special emphasis on the recommendations forwarded to Secretary Dole and Administrator Engen by AOPA that a special office to handle this monitoring of system capacity, both at airports, especially airports, and airspace, is needed most expeditiously as possible.

We, as an organization, our constituents are not people from the sidelines, we are day-to-day players, and we are vitally concerned about the safety of the system, which we think is safe. We are very concerned about the delays that are being built into the system for one reason or another. We pledge our support to you, this committee, other people in the industry, to work closely with you to help solve the problems.

I would like to commend you, Madam Chairman, for communicating your desires to Administrator Engen a couple of weeks ago, in your letter to him, saying that general aviation shall not be singled out to pay the price for delays. I would like to expand that commendation to Mr. Glickman over in the House who made a similar statement in his letters addressed to Secretary Dole and Administrator Engen.

I can only say that with friends like you and the strong support of this committee, I think that we are going to solve the problems.

Thank you very much.

[The statement follows:]

STATEMENT OF LAWRENCE L. BURIAN, PRESIDENT, NATIONAL AIR TRANSPORTATION ASSOCIATION

Madam Chairman and Members of the Committee:

My name is Lawrence L. Burian, I'm president of the National Air Transportation Association (NATA). On behalf of the member companies we represent at nearly 1,200 airport location, I'd like to thank you for this opportunity to present our views on the matter of the nation's air traffic control system and aviation delays at the nation's high-density airports.

NATA represents the business interests of its Members who engage in ground service and support activities for every segment of the industry: business and corporate aviation, personal transportation, on-demand air taxi, commuter and certificated airlines, and Department of Defense aircraft—including Air Force One, the President's airplane. Nearly all of these companies would fall under the definition of "small business" and are usually referred to as "fixed base operators"/or "FBOs."

In addition, most of our Members engage in commercial air transportation operating under the authority of an air carrier certificate issued by the Federal Aviation Administration (FAA), in accordance with Part 135 of the Federal Air Regulations (FARs) as on-demand air taxi operators. Some Members operate commuter airlines as well, rounding out their full-scale general aviation companies.

Our purpose here today is to discuss ideas that just may lead to the solutions needed to turn the tide on air traffic delays. NATA commends you on this effort, and pledges its full support to this Committee, and to others in our industry, to work toward such a laudable goal.

To discuss ideas and possible solutions, however, I feel that it is important to refresh our memory on some of the causative factors that got us into this bind in the first place.

BACKGROUND

Some critics have laid full, or most of the blame on the FAA for air traffic delays, saying that much more should have been done following the illegal strike by, and the subsequent dismissal of, approximately 12,000 air traffic controllers in 1981. We do not agree. Faced with what could be termed an impossible situation, the FAA did an incredible job of keeping the system functioning in a safe and relatively efficient manner. I hasten to add that the FAA received a great deal of cooperation from industry, and the air traffic, flight service station and technical personnel who remained on the job.

While the FAA may be reasonably faulted for not strictly adhering to their plan for hiring and training of new ATC personnel, the delays we're now experiencing can hardly be blamed on the shortage of people. Moreover, additional specialists in the enroute, approach and departure control, and tower positions would offer little improvement to the problem. Most of our problems are on the ground. And, that's where we should focus most of our attention.

AIRLINE SCHEDULING

According to the FAA, at Atlanta Hartsfield International Airport, there are 95 flights scheduled to depart during the time period 8:00 a.m.-8:30 a.m., and 99 flights between 9:00 a.m. and 9:30 a.m. Closer examination of the Official Airline Guide (OAG), or perhaps a stroll down any concourse at Hartsfield, would reveal an impossible number of flights departing from the same runway(s) at the same time. Bunching of schedules in this manner may look good in a system timetable of a given airline, but it just doesn't make any sense to abuse the system in this manner.

A few airline executives have offered their solution: limit the access of, or ban general aviation altogether. General aviation has been a favorite target for such recriminations, and it has played well in the press. The fact is that if by waving a magic wand and general aviation would be gone tomorrow, the delays would not be eased one iota!

To illustrate this point, we have used data that has been generated by the airlines to graph the de minimus impact general aviation has on Hartsfield. The example chart (see attachment) depicts arrivals and departures at Hartsfield between the hours of 6:00 a.m. and 11:00 p.m. on August 13, 1984.

AIRPORTS

NATA has, as you know, long advocated the full and proper use of monies from the Aviation Trust Fund. In our view, Congress, over the years, has neglected to adequately fund airport modernization, and the construction of new airports of new runways at existing airports. Consequently, through the combination of events such as: airline deregulation; the remarkable growth of the commuter airline industry; hub-and-spoking of airline systems; and, an improved economy, we have simply created an enormous demand, but at the same time have exhausted our supply of available runways.

In an address to an aviation audience a few years ago, a railroad executive commented on the way things are done in the aviation industry. "We bring our trains into town on one or two tracks, then branch out on many tracks. You folks in the aviation business bring your planes in on many 'tracks', then narrow it down to one. You've got it backwards—you're soon going to run out of track," he said.

That analogy zeroes in on the most serious problem of all: lack of runways to meet the growing public demand for air transportation.

THE FUTURE

NATA is convinced that all segments of aviation will face terminal area related delays for many years to come. No comprehensive studies are needed to tell us what we already know. More study will only delay resolution of the problem. The easiest task is to assimilate the information that is available now. The more difficult task or course will be that of applied solutions. At the very least, we recommend:

Full funding now, and expanded funding in the future, for airport projects. As an example, shorter runways (i.e., 3,000 feet-5,000 feet in length) parallel to existing runways, for use by aircraft that do not require extended landing area. In addition, new reliever airports should be built to help ease the traffic burden from high-density airports.

Increased funding for equipment that would maximize the utility of: new runways at existing airports; new airports, expecially relievers and, at existing runways. Equipment would include, but not be limited to instrument landing systems (ILS) and automatic weather observation systems (AWOS).

In 1981 when the General Aviation Reservation (GAR) plan was imposed, NATA recommended to the FAA Administrator that an airport/airspace capacity monitoring system be implemented. We think it was a good idea then, and we think it is a good idea today.

As an example, NATA, and most other organizations, have urged their members to steer clear of those terminal areas and airspace sectors that were overloaded with traffic, whenever possible.

SUMMARY

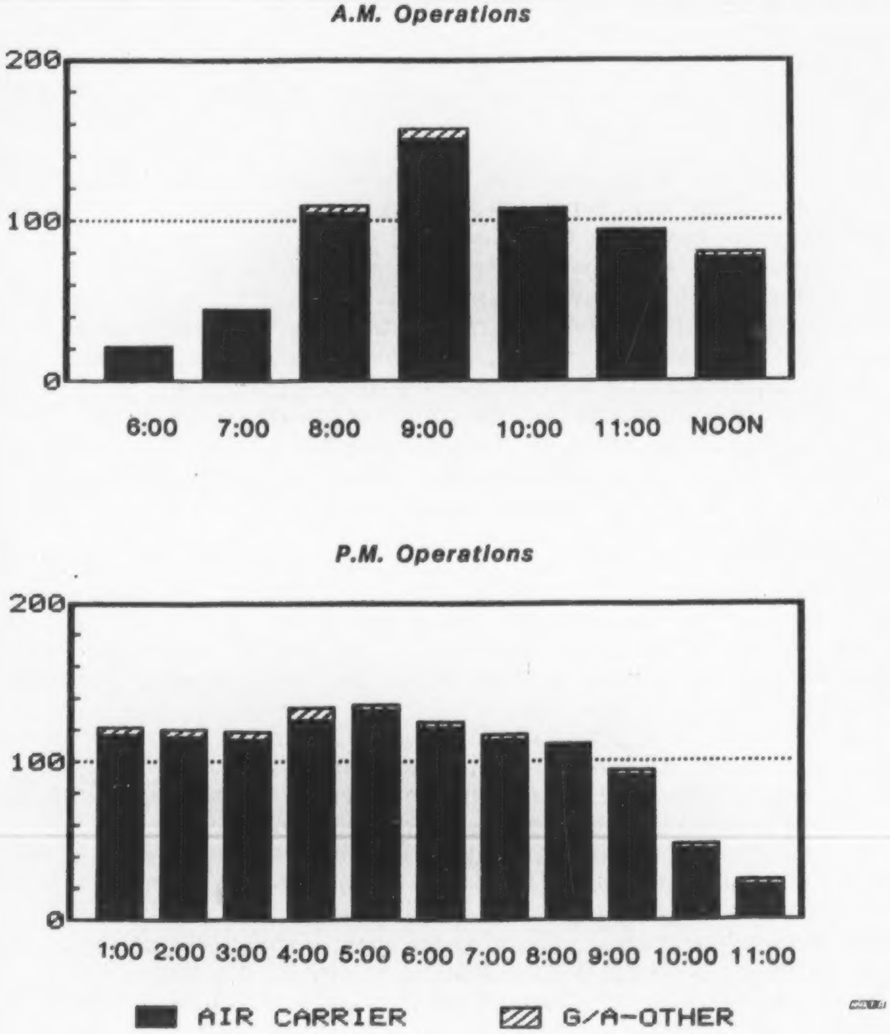
The problem of airport delays is multi-faceted and complex, but not without solution. However, each day we delay in facing the problem will only exacerbate the situation. It is, and will continue to be the responsibility of aviation user groups to cooperate in an arena of mutual concern and respect to identify the true limitations to airport access, and to assist in determining the necessary corrective action. If sacrifices are to be made, then they should be made on an equitable basis, and not at the expense of one industry segment over the other.

CONCLUSION

It is our sincere hope that the background information, ideas and opinions expressed here today, will prove to be the springboard from which the aviation industry—the entire industry—moves forward. Thank you for the opportunity to offer this testimony. We are prepared to work with you in every possible way in order to preserve America's leadership position in having the world's safest and most efficient air transportation system.

Arrivals & Departures
Atlanta Hartsfield International Airport

August 13, 1984



A.M. Operations

P.M. Operations

Senator KASSEBAUM. Thank you very much.

You heard Mrs. Goldman say in her testimony that she saw some conflict growing in the mix between the VFR and IFR. Do you see any potential problem that exists there, and how would you address it?

Mr. BAKER. I think, first of all, there is a very small amount of problem. Indeed, if you look at the incidents, every one that they are looking into, every one was in controlled airspace. The only consolation is there that we were all pretty secure. The FAA couldn't run us together if they tried.

Indeed, if you look at the near-miss statistics, most are in controlled airspace. Of the 200 million annual general aviation operations, a high percentage is out in the hinterland, the West Overshoe and East Overshoe in Kansas, Nebraska, Montana, and places like that, and New Hampshire, I might add. There you find people who have radios who have never turned them on, and that is because they are never in the Air Traffic System, nor do they represent a hazard to the en route air carrier in that capacity.

In terms of the hub area, almost without exception, the aircraft are instrumented. Indeed, the recent midairs we have had at San Diego, the most recent one at San Luis Obispo, both aircraft were properly equipped and both were where they were supposed to be appropriately located at the time of the accident.

So positive control in and of itself does not obviate the problem. There still has to be a strong recognition on the part of pilots that windscreens are there for something other than to let the light in. They have to look out on occasion.

We all have the tendency, when we are in the Air Traffic Control System, to be lulled into a sense of security that someone is watching out for us, and we glance out once in a while. I find myself doing it after 11,000 hours of flying and 41 years at it. It is a hazard that is implicit in human nature. We are lousy monitors, and we get bored.

But the sense of urgency in that arena, I think the whole general aviation community has taken that responsibility on to continue to bang away on the pilot population to recognize that their life is in their own hands in the sense of seeing and avoiding.

As I mentioned earlier, midair collisions are not a problem. We went back following San Diego and researched to the first year that statistics were kept on air carriers, and in that 40-year span there were seven midair collisions between air carriers and general aviation in which there were fatalities in the air carrier.

That number has not changed other than the commuter accident at San Luis Obispo, and that, when you figure out probably over that timeframe an average of operations probably 125 to 150 million a year, it is not a quantifiable number. You couldn't graph it in terms of it being a national hazard.

The same is true in terms of near-miss statistics, some of those are simply procedural near misses as opposed to near-hits, which is a heck of a different circumstance. In that regard, again, the high percentage of them happened in controlled airspace, en route, as were most of the ones that have had public visibility of late, above 12,500 feet in which all aircraft are accounted for, or in the hub areas. That has to do with primarily the Air Traffic Control System in terms of improvement.

Contrary to what some believe, there are portions of the modernization which we support very aggressively, one of which is to improve and enhance the capacity of the existing equipment, which has been overtaken by time. It simply lacks the capacity now to do some of the good things that are available technically, and we should be pushing forward in those areas very aggressively.

Other than that, our record is outstanding, and I don't believe that we have to apologize to anyone. So I don't believe that the concern that we hear expressed, which I think has a terribly adverse impact in the eyes of the nonflyer on aviation, represents a real hazard.

Senator **Kassebaum**. I think that is very true. I also think, though, that the public tends to focus on that.

Unfortunately, what always captures the headlines is the near-miss, and it is very hard to get all of the statistics out. I think that we do do an extraordinary job, but it is that one accident that of course is a problem.

You mentioned weather delay as a major problem, and, Mr. Burian, you mentioned the need to get automated weather stations onboard. This is something that is causing some conflict within the aviation community, I think particularly with some of the private pilots.

I have just had a message that the noise amendment is on the floor. If that is the case, I am going to have to leave, but until we find out for sure, would you like to answer the question on the automated weather stations?

Mr. **Baker**. Again, we are one of the ones that is somewhat vocal, as you are aware, on that subject. However, it ties into a broader subject, and that is the premature closure of flight service stations which we have fought very vocally and, happily, very effectively.

The automated weather station is better than nothing. Indeed, if we are going to have nothing, we urge that it be put into every airport that we can afford. Obviously, with a $6 billion surplus in trust funds, we can afford a lot.

It is not a solution, as far as I am concerned. It is very limited in what it can do. I think that it is a matter of almost national disaster if you allow both NOAA and the FAA to get out of the weather business because half of the fatals we have are weather related.

Good weather information is the best lifeguard we have out there. To substitute a machine for that, where its corns don't hurt when the field is going to fog in in 2 hours, and when it knows when it looks out to the West and it sees weather conditions like that that the airport is going to be closed very shortly with ground fog is a loss that is going to cost lives. As I said, our answer is, yes, we support it qualifiedly, and that is, in lieu of nothing, but not in lieu of qualified weather observers.

Mr. **Burian**. There is another dimension to this, Madam Chairman, and that is, in the commercial arena, a flight, particularly the air taxi which I have the greatest interest in, an air taxi flight cannot be dispatched to its destination unless there is reportable weather. If they are relying on a terminal forecast with some qualifying remarks in the remarks column, and not in the report itself, that flight cannot be legally dispatched.

What this means is forcing traffic whose destination would be the smaller, what might fall in the category of reliever airports, are being forced to use the O'Hares, the Miamis, and so on and so forth, where they do have weather being reported every hour, or in situations where it is needed.

So automatic weather observations would be a great help not only in the increased safety, but also decreasing some of the delays that are being pushed upon the system.

Senator KASSEBAUM. Mr. Stimpson, does GAMA have the ability to obtain or do you obtain a detailed breakdown on traffic loads at various centers?

Mr. STIMPSON. Our information in that category comes from the FAA.

Senator KASSEBAUM. It does.

Mr. STIMPSON. Yes; the numbers I cited are FAA numbers. Those numbers are subject to interpretation at times because they mean different things, and different things are included in them, but that is the basic data base we use.

Senator KASSEBAUM. Senator Lautenberg.

Senator LAUTENBERG. Thank you, Madam Chairman.

I would love to be able to sit and chat with you fellows, nice and friendly like across the table, because we have some differing views.

I also have experience, both in terms of corporate aircraft, which I miss greatly since I have been down here, and having sat on the Port Authority, examining the airports in the region very closely, feeling and knowing the very important role that general aviation and corporate aviation play. Nevertheless, I see our commercial carriers as playing the most critical role.

We only have a limited resource, and I was surprised to hear you say, Mr. Baker, some very provocative statements. You said that 67 percent of the delays are weather related. I don't have the information in hand. I don't know if that is 60 or 70 percent of single-engine aircraft, twin-engine, private aircraft. But I do know this, there have been an awful lot of delays in this corridor here, which is a very busy one, between here and New York, that have been more than just weather related. Some of it has been just the increase in traffic that has caused delays. We know that there have been incentives for general aviation to move out because the landing fees at the various airports are just eating them up. Therefore, we have the reliever airports taking more and more traffic.

I fly frequently out of Denver, CO, which is a small airport, and I like the service, so I won't identify it. I hear the weather forecaster guy saying, "Yes, I can see the light at the top of the mountain, you can come in," and there is a 60-passenger aircraft landing in blinding snow, or else he says, "The light is beginning to disappear, you had better turn around," and off they go. So things are not what they are supposed to be out there, and we know that.

A question that I am most concerned with is this. All of you were universal in your praise of FAA, and I don't blame you. The fact is that there are problems, and whether it is 11 incidents out of 100 or 200 million, God forbid that those 11 be jumbos. We would be in terrible shape.

I want to ask you one question, and you have heard me on this thing. I heard your praising of the FAA, but all of us, even the FAA, have fallen short on our goals and objectives. Is it fair to say, in raw statistics, that we could use more controllers, experienced controllers, than we have now?

Mr. BAKER. More journeymen, there is no question about that. I think we would all agree to that.

Senator LAUTENBERG. Being practical business types, you would also say that the most cost-effective way to get them there is the best way we ought to do it.

Mr. BAKER. If they are reliable.

Senator LAUTENBERG. I am not suggesting hiring unreliable controllers.

Mr. BAKER. If you are in the chicken coop, and the fox is outside, you stick your head out of the chicken coop and you are bitten once or twice, you are going to stay back in the chicken coop.

Senator LAUTENBERG. But if he is in charge, I am very careful about keeping him happy.

The other thing is that I do have to take some exception, Mr. Baker, to something you said. I don't know whether it was intended as a reference, but it was almost like quick buck guys like People's Express. You may not have meant that, but you described it as a quick opportunity, and the airlines would jump in there.

I stood in the cabin of a 737, the first People's Express airplane to fly, and I commended them because I came from business experience where we started very small. They got me out of there in time so the business is still very big, and today People's Express carries more passengers out of Newark, one of the best airports in the country, than any other airline.

All you have to do is fly them, and you see the elderly, and you see the college kids, and you see the large families, who couldn't afford to pay the regular rate as it used to exist, who now fly. They treat it like a bus, which is what aviation is today, like a mass transit. You see the wonderful, wonderful service that they provide. We have to accommodate that. We can't reserve it for the guys who pay the lottery stuff.

Mr. STIMPSON. Can I speak to People's Express and Newark for just a minute?

Senator LAUTENBERG. Sure.

Mr. STIMPSON. Several years ago, we were encouraged to get out of LaGuardia and out of JFK to go to Newark, and we did. Substantial development is being done at Newark. We are not objecting to the great work People's Express does, what we are objecting to is when you look at the numbers, and we are down 9 percent in traffic at Newark, and they are up like 400 percent, and we get accused of being the problem. I think that is what we are talking about here.

We are not arguing with the concept of deregulation and what People's Express are doing. They have done a lot of finger pointing at us saying: "You, general aviation, is the problem here," and that is the point that we were trying to make here.

Senator LAUTENBERG. We want to cooperate. It is obvious. Senator Humphrey, I hope you heard the statement about the deficit, and so forth. The point is well taken. We have to get done with that, and have money available.

Mr. STIMPSON. These are 100 percent user charge funds. Every dime we are talking about spending is financed by the passenger tax, by the general aviation fuel tax. There is not a single cent nonuser charge money in what we are talking about.

Senator LAUTENBERG. I know what it costs to land an airplane at JFK.

Mr. STIMPSON. This $5 billion is all user tax funds.

Senator LAUTENBERG. I love general aviation. Thank you.

Senator HUMPHREY. While we are on the subject of user fees, how much is the tax on aviation gas per gallon nowadays?

Mr. STIMPSON. Twelve cents.

Mr. BAKER. It is 12 cents on aviation gas and 14 on turbine.

Senator HUMPHREY. What is the average price on aviation gasoline?

Mr. BAKER. It is about $1.92 nationwide.

Mr. BURIAN. Don't forget that on the commercial side, you have 8-percent ticket tax and 5-percent waybill.

Senator HUMPHREY. The ticket tax accounts for what, about 60 percent of the collections?

Mr. STIMPSON. It is close to 90 percent.

Mr. BURIAN. It depends on whose books you are reading.

Senator HUMPHREY. The airway bill tax would be what?

Mr. STIMPSON. That includes the passengers and freight together.

Senator HUMPHREY. That is all lumped together?

Mr. STIMPSON. Yes, and then there is the fuel tax.

Senator HUMPHREY. What part is the aviation gas, what part does that contribute to the total?

Mr. BAKER. Apart from the turbine?

Senator HUMPHREY. No, the whole thing, the whole aviation fuel?

Mr. BURIAN. About 10 percent.

Senator HUMPHREY. It is a small piece of change.

Do you have any statistics, since you are on for the moment, and apparently feel somewhat slighted, that indicate how important a role general aviation plays in our economy? Do you have anything that you can tick off real quick before we move on?

Mr. BAKER. I am sure that each of us can. We are not so benighted as to say that we are the arteries of this Nation's Air Transportation System, but we are certainly the veins and the capillaries. We tie in the smaller communities and the smaller States into this Nation's Air Transportation system.

I indicated to Senator Andrews when we testified 2 or 3 weeks ago on this subject that if the proposals of the People's Express of this world were proposing went through, the State of North Dakota would have to save up for a week to fill an airplane before they could buy a slot at Chicago.

General aviation has replaced the air carrier after deregulation in the small and intermediate size communities. The other piece of it, obviously, is in terms of millions of dollars of jobs, and so forth, and that adds a heck of a lot to the dialog.

Mr. STIMPSON. I would just add that we move 100 million people plus a year in intercity travel.

Mr. BAKER. That is to 14,000 cities, whereas the air carrier, 52 percent of their traffic comes out of 25 locations.

Senator HUMPHREY. 100 million, do you have any idea what the airlines' statistics are?

Mr. STIMPSON. About 300 million.

Senator HUMPHREY. You do a third of it.

Mr. BAKER. But at a disadvantage from the airlines.

Senator HUMPHREY. We understand that distinction. My State, by the way, has only one airport served by an airline that would be considered a major airline, and that is only recently.

Mr. Burian, did you want to add something to that?

Mr. BURIAN. If I could just repeat again what I said earlier about the service and support that our membership provides all segments of aviation, and it is a very important area of support. I am talking about the push-back service, cabin grooming, refueling, baggage handling, et cetera, that many of the airlines rely on. It is a very important role that they are playing in every size city, and every hub across the United States.

Senator HUMPHREY. Thank you.

Mr. Baker, you say that in your view about 60 percent of the air traffic delays nowadays are attributable to weather conditions. How would you distribute the remaining 40 percent between airways as one category, airports as another, or any way that you would do it to enlighten us.

Mr. BAKER. These are FAA statistics, and they respond to the nonpresent Senator Lautenberg. That 60 percent had to do with the airports under question, the six under question. Some years ago, when I was Assistant Administrator at the FAA, 93 or 94 percent of the total delays were weather related, and the rest of it is traffic demand primarily. The military does put some portion of that number in, and I don't have the breakout with me.

Mr. BURIAN. I believe you are referring to the statistics I recently read, and it is actually 69 percent that are weather delays, and some 16 percent are traffic delays in the immediate terminal area, and then it is stretched out in the en route. The problem is being compounded in the terminals.

Senator HUMPHREY. What I am trying to get at, apart from the delays caused by weather, how great is shortage of capacity at airports compared with shortage of capacity en route in the airway system? How do you rate the two of them?

Mr. BAKER. It is our position, and it is based on a myriad of meetings, if you will, with the FAA that most of the en route delays are backup from the terminal areas, which again all gets back to the hub.

Senator HUMPHREY. So you are saying that it is not so much a lack of DOR, airways or airspace, as it is places to plop them down.

Mr. STIMPSON. It is a concrete problem, I think, that is the No. 1 problem.

Mr. BAKER. There are areas of criticism, we think, where the FAA has been very slow to look to random routing, if you will, utilizing the new navigational equipment that is available. So we all don't have to follow the same highway, where we are all going down the same piece of right-of-way.

Senator HUMPHREY. Do you have any numbers on the military airports that could serve as reliever airports, that is military airports that are not tactical or strategic, that are close enough to make economic sense to major areas and could serve, therefore, as relievers? Do you have any numbers on that?

Mr. BAKER. We can give that to the committee very quickly because that study has been done most recently, and we have identified quite a number. I think Mr. Stimpson hit many. You have the Coast Guard field immediately outside of New York City, a former Navy field, Floyd Bennett. You have the naval air station immediately out of Philadelphia, which is not tactical. In the Orange County area in California, an area that is a total disaster in terms of airport capacity, a Marine/Navy station that now, I think, has 20 based Reserve helicopters total, at Los Alamedas. There is Glenview in Chicago.

In every hub area, the answer is, yes. Chicago is critically short of airport space, and we may lose Meigs to the World's Fair if New Orleans' experience would persuade them.

Senator HUMPHREY. Thank you.

Senator KASSEBAUM. Thank you very much. We appreciate your testimony.

I wonder, in the interest of time, if the next group of witnesses would mind sitting together. We can take everyone's testimony, and then ask questions. It is amazing how quickly we can run out of time and still have questions to ask. I appreciate your patience.

In hearing the next witnesses, I guess I will start from this end and go on down, if there is no problem with that. It is a pleasure to welcome Paul Ignatius, president of the Air Transport Association.

STATEMENT OF PAUL IGNATIUS, PRESIDENT, AIR TRANSPORT ASSOCIATION

Mr. IGNATIUS. Thank you, Madam Chairman, and Senator Humphrey.

I will be very brief. I know you will include my full statement in the record of the hearing.

Senator KASSEBAUM. Yes.

Mr. IGNATIUS. A number of points, I think, have come into perspective this afternoon as a result of the testimony that you have heard. One is that most of the delays that we have encountered have been weather related.

In answer to your most recent question, Senator Humphrey, just a moment or two ago, the FAA data for August indicated that about 60 percent of the delays in the month of August were weather related, and the remaining seemed to be about evenly balanced between airport scheduling delays and en route delays. They were about even accounting for roughly 20 percent each.

The root of the problems we are talking about was the PATCO strike in 1981. The FAA's response to that was a magnificent chapter in its history. Enormous progress has been made, but there are many things that still can be done. I have tried to include in my statement a number of suggestions dealing both with personnel matters and with operational matters that we the airlines believe will contribute to a faster recovery and an expansion of capacity.

The overriding consideration in all of these matters, however, is safety. In that regard, the airlines are now in the 27th month, since July 1982, during which time U.S. scheduled airlines have carried more than 600 million passengers on more than 9 million jet flights without a single fatality.

The period since deregulation has represented the best safety record since the commercial jet age began in 1958, a year when the airlines carried 49 million passengers. This year we expect to carry about 325 million passengers. The industry grew because of its safety record, and its commitment to safety, and its future growth will be dependent on the same thing. That is the overriding consideration. That is what determines everything.

What we have today is a situation where we have been unable to accommodate the demands of all of the users, that is to say, the airlines, general aviation, and the military, without considerable delays—without more delays than normal.

This year we have had more delays than we have had in a good long time. You heard statistics from the Administrator on the order of 80 percent or so as an increase this year. I am happy to report that the month of September, and I have data just for the first 26 days of September, is down about a third from August.

However, traffic is down a little bit also, so you would expect there to be some reduction, but the amount of delays in the month of September look to be about a third less than they were during the month of August.

The problem, I believe, is the need for more controllers, both to meet the numerical goals and the qualitative goals, and here maybe I could be helpful to the committee.

There were a lot of figures used earlier. Prior to PATCO there was in round numbers a requirement for something on the order of 16,500 controllers. You have heard testimony that not all of those people worked on the scopes and weren't doing the job as controllers; they were doing other things. Second, you have heard testimony that the number of hours per day has increased about a third or so over what it was.

The FAA has set a new goal of 14,306 controllers, and against that they have on board today about 13,500. In short, they are about 800 to 900 below the numerical requirement, but that is only part of the problem because Admiral Engen pointed out that there are some 1,900 or so controllers in a developmental status, that is to say, they are trainees. Under normal circumstances, you would have maybe 800 or so trainees.

So you have more people in training than you would normally have, and as a result, you have a qualitative deficiency that is greater than the numerical deficiency of about 900.

We got concerned back in March of this year about the wash out rate, that is to say, the rate of attrition was running higher than what FAA had planned. We brought this to the attention of the administrator and Secretary of Transportation, saying that the wash out rate per se wasn't the problem. You want to make sure that you have people doing air traffic control who have the aptitude to do the job and have demonstrated the proper ability.

So if you have a high washout rate, it is important that you start enough people down the line. We suggested back at that time that they ought to go back to double shifting at their training school in Oklahoma, and they ought to put more people into the pipeline.

As you know, and as the Admiral stated, they have recently done that. They have made a decision to go to two shifts, and they have also made a decision to hire more people to start them down the path that 2 years or more hence will result in them being trained and adequate.

There are a number of things in the personnel area. More use, we think, can be made of part-time controllers. Normally, you don't like to staff at peak demand, you like a staff at somewhat less than that. Most businesses, or many businesses, make use of part-time people to take care of the peaks when they occur. The FAA makes only limited use of that. There are problems in doing it, but we think there would be an opportunity, perhaps, for more innovative use of this particular concept.

We were very pleased that the Senate took the lead in passing legislation that extended the ability to retain the controllers who otherwise would retire. We can't afford the loss of qualified people right now, and the Senate's action that eventually was enacted into law has the effect of extending this special arrangement for another year, and we are very glad about that.

There are more things that can be done, and I know the FAA is working on many of them, to try to retain controllers who otherwise would retire. The numbers are fairly high. We hear the number of 350 to 375 annually. It is every bit of that and that is a lot of people. These are fully qualified people, and every one of those who can be saved is very important at this particular time.

Another thing in the personnel area that I think is important, and we have mentioned this many times, is to look at the number of 14,306, and the assumptions that underlie it. That is to say, how is that number developed, what assumptions were made.

We heard the Administrator say, if everyone turned on their transponder FAA would have trouble handling it. What assumptions are made in the 14,306 number with respect to transponders being turned on, a suggestion that ALPA and others have made. Because if that figure is too low, then it seems to me we have a climate in the Nation and in the Congress to do something about it.

I think that it is important, with all due respect to the fine job that FAA has done, and the commendations that they have deservedly received, that they not react to the problem if they can anticipate the problem. If you could, for example, program more than that number, or gave authority to the Administrator for more than 14,306, and let him have the discretion to hire beyond that if it looks as though he is going to need it.

It is very important that we get this system back to the level that all of the users, general aviation, the airlines, the military—all of whom have important functions to contribute—are able to operate under normal circumstances. In many ways, the most important single thing for the Congress to do is to appropriate the money that has been authorized under the Airport and Airways Improvement Program.

Here again, we can thank the chairman of this committee, and many members of the committee, and of the Senate and the House, for the leadership role they have taken in getting those authorization numbers up to where they ought to be.

Our hope is that those full amounts will be part of the continuing resolution, because this is the money paid for by users of the system on which future capacity depends, both in the airports and in the airways, and they are both important. We need more capacity and more modern equipment in the airways, and we clearly need more capacity in the airports.

Those are some of the points that I want to stress. I have a number of specific suggestions in my testimony that I hope will be of interest to the committee.

Thank you very much.

Senator KASSEBAUM. Thank you very much, Mr. Ignatius. I think we might ask a few brief questions of each one who testifies.

I would be curious. You say that the traffic dropped somewhat in September, is that because of the scheduling agreements that were worked out by the airlines?

Mr. IGNATIUS. I doubt that because they haven't really had that much chance to take effect. This is seasonal. August tends to be the busiest month in the air, and you tend to have a seasonal fluctuation as you go into the fall. It is a seasonal change more than anything else.

Senator KASSEBAUM. We have heard a number of comments from witnesses about long term solutions to this problem, but what if we get into a problem in December with holiday traffic and weather conditions? What method do you favor as far as speaking for ATA to allocate scarce capacity?

Mr. IGNATIUS. First, one would hope that the measures that we and others have suggested would take care of the problem. We have heard some encouraging things from Admiral Engen and others about that.

I certainly think that one needs to look at the peak hour problem. During many hours of the day, at most airports, not all, but during many hours of the day at most airports there isn't a problem, but there is a peak hour problem at some airports. We should do, as the airlines, all that we can through scheduling to mitigate that problem.

Some of these are beyond the control of the airlines because there are certain rhythms, if you will, in the course of the day. I mean, you get up in the morning, most people, and you go to bed at night, and you eat dinner at night, and you don't eat dinner at 3 in the afternoon. There are patterns of this kind in transportation.

There are heavy inbound flows in the morning into town, and heavy outbound flows in the evening out of town. On the highway system, this is handled during the peak hours, as you know, through a number of measures.

If you are commuting on I-66 during the peak hours, coming into town in the morning, you have to have three people in the vehicle, and the same way outbound at the end of the day. You can go in a fast lane on Shirley Highway if you are on a bus, but you can't if you are alone in a private automobile. We have done a number of things in the Federal highway system to deal with this kind of peaking problem.

Senator KASSEBAUN. Do you feel that the scheduling agreements that you have worked out are proving successful? Have you found the public response to the new offers that you have made to try to shift away from peak hours successful?

Mr. IGNATIUS. Madam Chairman, there were 8 long days of meetings, and they culminated in almost 1,300 schedule changes. Those have just been filed with the Civil Aeronautics Board. They went in late last week for review and approval by the Board. I believe, if the Board approves these, particularly in some locations and at some hours, it will make an improvement.

It seems to me that this is particularly apparent at Atlanta Hartsfield at a particular hour of the day where two of the airlines most specifically involved were able to shift large numbers of flights, some going ahead a half-hour and some going back a half-hour, and that should have a beneficial effect. How much it does overall, remains to be seen.

Senator KASSEBAUN. Senator Humphrey.

Senator HUMPHREY. Thank you.

Mr. Ignatius, when does this agreement expire that the airlines have entered into?

Mr. IGNATIUS. I believe that it expires in April 1985.

Senator HUMPHREY. What do you foresee next summer, then, inasmuch as the FAA has said, or Mr. Engen has said that he will not seek an extension of this agreement? What are you telling your members about next summer?

Mr. IGNATIUS. We are telling the FAA, and our members are telling the FAA, that everything should be done that can be done within the overriding mandate of safety to increase the capacity so that we do not have the problem next summer that we had this summer.

I have listed a number of things, dealing both with personnel and with respect to operational matters, that we think can increase capacity so that we can schedule normally, and not have the FAA become an airline scheduler.

Senator HUMPHREY. If, however, all of that is not accomplished, what do you foresee?

Mr. IGNATIUS. Then, in part, there will be a choice that will have to be made between delays, on the one hand, or some kind of peak hour handling of the problem.

Senator HUMPHREY. Do you have any suggestions, apart from the agreement that has been reached?

Some have urged, and I don't know what ATA's position is on this, in the case of those particular airports, that we auction landing and takeoff slots.

Mr. IGNATIUS. There has been discussion of that, and at the moment the airline members, comprising the Air Transport Association, have varying views on that. There is not a single point of view on that issue. There is a split opinion, if you will.

Senator HUMPHREY. I see.

Under the agreement, are new entrants frozen out? This is a pact between existing entities that serve those airports. If someone new wants to come in, how is that handled?

Mr. IGNATIUS. This was handled as a result of long and arduous discussion and decisionmaking. I would be glad to respond precisely for the record on that question.

[The following information was subsequently received for the record:]

During the hearing, Senator Humphrey asked if new entrants were frozen out under the agreements reached at the recently concluded schedule adjustment meetings. The agreements do not foreclose operations by new entrants.

Because of extensive delays this past summer, the Department of Transportation asked the airlines serving Atlanta, Denver, Chicago-O'Hare, Newark and New York's LaGuardia and John F. Kennedy airports to adjust their schedules during the November 1, 1984—March 31, 1985 schedule season in order to spread arrivals and departures more evenly during certain peak times of the day. The agreements simply represent efforts by the airlines to meet the Department's request for such schedule adjustments.

However, new entrant airlines, as well as established airlines for that matter, could be affected by other existing or portential regulatory actions by the Federal Aviation Administration (FAA). For example, three of the six airports involved currently are subject to comprehensive flight schedule limitations imposed by the FAA. While both new entrant and established airlines are free to seek new operations at the three currently controlled airports from the Airline Scheduling Committees or from the FAA, airline demand for such operations presently exceeds the permissible level. At the other three airports, both new entrant and established airlines are not subject to such federal limitations, and their freedom to schedule will continue unless the FAA adopts a rule affecting, for example, operations during the peak time periods covered by the schedule adjustment agreements. We do not know what, if anything, the FAA may do in this regard.

Senator HUMPHREY. My point is, wouldn't it be more encouraging of freedom of entry if we auctioned these off?

If we have to do that, there will have to be some kind of allocation system on a temporary basis at a limited number of airports. Wouldn't it be better to auction them off rather than to enter into the kind of agreement that we have as an emergency measure?

Mr. IGNATIUS. The proponents of the auction system make that point, that you can ration scarcity by price, and you do that in many aspects of the economy. So they say, in effect, that this is an avenue that should be employed here.

The people who recognize, on the one hand, that the market does operate throughout the economy generally, have nevertheless pointed out the reasons why they believe it might not serve the overall needs in the situation of the airports.

As I say, among the airlines themselves, there are substantial differences of opinion with respect to the extent to which you should use this market mechanism. I might add that outside the airlines there are differing views as between communities, as between airports, and as between the general aviation and commuter aspects of flying.

Senator HUMPHREY. Thank you.

Thank you, Madam Chairman.

Senator KASSEBAUM. Thank you.

[The statement follows:]

STATEMENT OF PAUL R. IGNATIUS, PRESIDENT AND CHIEF EXECTIVE OFFICER, AIR TRANSPORT ASSOCIATION

Madam Chairman and members of the commitee: I am Paul R. Ignatius, President of the Air Transport Association. Our members provide most of the nation's scheduled air transportation. We understand that in these hearings you are particularly interested in discussing ways to increase the capacity of the nation's airways and airport system, and we are pleased to offer suggestions that will help to achieve that objective. With me is Roger Fleming, ATA's Vice President—Operations, and James Murphy, Vice President—Airports.

As you know, the delays encountered this summer have their origin in the illegal PATCO strike of August 1981. The airlines supported the President's decisive action, even in the face of service disruptions which were most inconvenient to passengers and shippers and cost the airlines many millions of dollars. The airlines' primary consideration is to assure that their operations are safe. The secondary consideration is to assure that the system is restored to full operational capacity as quickly as possible.

There is no question that the primary requirement for safety has been met. The industry's commitment to safety is reflected in the fact that in the 27 months since July 1982, U.S. scheduled airlines have carried more than 600 million passengers on more than nine million jet flights without a single fatality. The period since deregulation has represented the best safety record since the commercial jet age began in 1958—a year when the airlines carried 49 million passengers. This year we expect to carry about 325 million passengers. The airline industry grew because of its safety record and its future growth will depend on maintaining safety as its highest priority.

FULL FUNDING OF AIRPORT AND AIRWAYS DEVELOPMENT PROGRAM

The most important action Congress can take to increase capacity is to provide full funding of the airport and airways program. This program, as you know, was established by Congress in 1970 and is the basis for capital improvements in the airport and airways system. It is funded by user taxes, the principal one being the 8 percent ticket tax paid by domestic airline passengers. The large sums of money received by the fund are intended to finance a comprehensive expansion and modernization of the airways, and an accompanying series of improvements in the nation's airports. Currently there is a trust fund surplus amounting to more than 3 billion dollars.

The House and the Senate have authorized sufficient levels for airways and airport needs as well as for the research and development programs that undergird these requirements. We earnestly hope that these amounts will be appropriated now and in the future so that the needs of all aviation users are met.

AIR TRAFFIC CONTROL SYSTEM SUGGESTIONS

The capacity of the Air Traffic Control (ATC) system today is insufficient to meet the demands placed upon it by the airlines, general aviation, and other users without unacceptable delays. Delays frustrate passengers and shippers and are costly to the airlines. You can understand our interest, then, in exploring every reasonable measure to provide greater system capacity. These include personnel matters such as adequate staffing levels, retention of experienced controllers who are eligible to retire, innovative use of part-time controllers, and programming a sufficient number of trainees to accommodate high training attrition rates. They also include operational changes designed to increase capacity.

Since the PATCO strike, ATA has made many suggestions to FAA on ways to increase system capacity. The most recent ATA suggestions were contained in a communication to FAA dated August 30, 1984, as follows:

Reexamine the 14,306 controller workforce target to ensure adequate numbers of controllers to accommodate current and future aviation requirements.

Ensure that enough new hires enter the controller training pipeline to account for actual attrition rates and to meet future system demands.

Strengthen efforts to train those new controllers already hired to full performance levels as soon as practical.

Take steps to retain those fully qualified, experienced controllers and facility managers who, in large numbers, are coming up for elective or mandatory retirement.

Deal effectively with human relations problems, which are becoming more evident among the controller workforce, and ensure that morale and working conditions are maintained at the highest level.

With airline cooperation, assess en route conditions on a timely basis and refine flow control techniques to avoid unnecessary restrictions and system inefficiencies.

Reaffirm long-term commitments to full funding and timely implementation of the National Airspace System Plan, ensuring that the billions of tax dollars collected from aviation users are put to work for their intended purposes.

Limit the use of routine in-trail (which should normally not exceed 10 miles) separation practices. Eliminate the "in-trail regardless of altitude" practices.

Authorize the use of reasonable in-flight holding to assure efficient use of airspace and airport capacity and to reduce ground delays.

Ensure that the FAA Quality Assurance Program does not have the unintended effect of overly restricting individual controller actions that reduce airspace and airport capacity.

AIRPORT CAPACITY SUGGESTIONS

A fully staffed and equipped ATC system is essential for the safe and efficient conduct of air commerce. Equally important is the availability of an adequate airport system.

In connection with airport capacity, we have urged FAA to concentrate on granting federal funding assistance to those airports which most need capacity enhancements, such as the additional runways now under construction at Dallas-Ft. Worth, Houston and Atlanta. The initial environmental work has just been initiated for a critically needed new runway at Denver. Where possible, dual taxiways, aircraft holding areas, and short runways for independent operations by commuters and general aviation must also be provided to increase capacity at the 20 largest airports.

ATC procedural changes, now under study at FAA, could significantly increase airport capacity. These changes would:

Reduce lateral separation for instrument approaches to independent parallel runways. If runway separation could be reduced to 3,000 feet from the current standard of 4,300 feet, it would add capacity at 10 airports.

Reduce in-trail separation of aircraft within 15 miles of the airport from three to two and one-half miles. The reduced separation standard would increase capacity at all controlled airports.

Revise procedures applicable to instrument approaches to converging runways, permitting simultaneous operations to those runways. Such procedures, if adopted, would improve capacity at 31 airports.

Another area of particular importance is the Engineered Performance Standards at the nation's busiest airports. These standards are the method by which FAA calculates runway capacity. Many questions have been raised as to whether the currently employed standards actually reflect true airport capacity. We understand that FAA plans to award a contract to a research group to conduct an independent analysis of the standards at 8 airports and their respective air route traffic control centers. This effort, we believe, should be accorded a high priority because it offers the possibility of substantial airport capacity improvements.

Finally, I want to stress the importance of the reliever airport program. Congress wisely allocated 10 percent of Airport Improvement Program funds each year for development and enhancement of reliever airports to accommodate general aviation aircraft in the vicinity of busy air carrier airports. The importance of this program to the users is exemplified by the fact that ATA and two prominent general aviation groups—the General Aviation Manufacturers Association and the National Business Aircraft Association—have worked closely to increase reliever airport capacity at many locations in the U.S. Conveniently located, well equipped and maintained reliever airports will reduce delays at major airports and are enthusiastically supported by both the airlines and general aviation.

This ends my prepared statement. I will be happy to respond to your questions.

Senator **Kassebaum**. The next witness is Gary Eads, President, U.S. Air Traffic Controllers Organization.

STATEMENT OF GARY EADS, PRESIDENT, U.S. AIR TRAFFIC CONTROLLERS ORGANIZATION

Mr. **Eads**. Thank you, Madam Chairman.

I am sure I won't be considered part of the choir. What I have is a brief summary statement that I would like to read, then I will be available for any questions.

Madam Chairman, and members of the committee. The U.S. Air Traffic Controllers Organization is pleased to be here today to present our views on the state of the Nation's Air Traffic Control System. The aviation issues which this committee has been charged to investigate are of vital interest to the American people, and we are privileged to have this opportunity to offer our testimony.

USACO was founded on July 9, 1982, for the purpose of promoting safety within our country's air traffic control system, and to represent the interests of the air traffic controllers. To that end, we have worked diligently, and we think responsibly, during these past 2½ years, meeting with Members of Congress and the aviation community.

During this time, our organization has also been afforded the unique opportunity on a daily basis of meeting and talking with controllers who have been fired, controllers who stayed on the job, and with controllers who have been hired since 1981. Additionally, we have also had extensive contact with many first-level FAA supervisors.

It is from that perspective that we approach this subcommittee today, with the hope that our testimony will be received with the understanding that it is presented from a deep desire on our part to help effect a solution. With that in mind, we would like to confine our prepared remarks today to what we consider the most beneficial action the Government could take with regard to the continuing problems of the Air Traffic Control System.

Our organization believes that no single act could benefit the system more than the reinstatement of the air traffic controllers who were dismissed in August 1981. Based on the input that we have received from working controllers and FAA supervisors, a lifting of the ban on reinstating dismissed controllers would provide an immediate relief in the following areas of the FAA's air traffic operations.

First, where radar sectors and operational positions have been doubled or tripled in size since 1981 to accommodate the lack of experienced staffing, the FAA would be able to reduce the size of these large segments of airspace so that they can be made more manageable during periods of medium- and high-volume traffic.

Working controllers have told us that the issue of resectorization as it relates to the safe and efficient flow of air traffic is the least understood by FAA management, Congressional representatives, and the aviation community. In our opinion, no reaction to the events of August 1981, has had a more adverse impact on the daily operations of the air traffic control system than the FAA's redesign of sectors of operation into these dangerously large configurations.

For example, in Boston Center at Nashua, NH, there were 42 sectors prior to August 1981, and today it has 24. At the Washington National tower there were five approach control positions in 1981, and there are now normally two.

An incident, which occurred on May 23, 1983, at the FAA Center in Leesburg, VA, one facility manager described as almost unmanageable, and in which two Eastern jets came dangerously close. One controller was monitoring 25 airplanes on radar and was communicating with 12 others on radio, while another controller was responsible for the adjacent sector's airspace, was monitoring 23 and talking to 13. At the same time, they were simultaneously transferring planes between their two sectors.

The FAA determined that a contributing factor in this error was volume of traffic. While we would not argue with their conclusion, we would add that it is more important to recognize how today's system is designed to handle this volume.

No two controllers, working anywhere in this System, should ever be responsible for 48 aircraft at one time. No matter how much flow control, scheduling of flights, airport redesign, and equipment upgrade the agency performs, it will not change one simple fact. Any sector design that allows too many airplanes to be worked by too few controllers is inherently dangerous. We might add, any administrative policy that makes this design necessary is inherently flawed and needs to be changed.

Another improvement which would be realized immediately if the dismissed controllers were allowed to be reinstated would be in the area of excessive in-trail separation. These costly restrictions could be reduced almost immediately if experienced controllers were brought back into the system.

Working controllers tell us that individual applied restrictions are commonplace, especially between controllers working in centers and controllers working in terminal or airport facilities because no one is willing to count on the experience or the expertise of the other guy to move the traffic safely with less distance between the aircraft.

Due to the lack of experience within the controller ranks, these types of restrictions are being applied in thousands of different situations daily without the users even being aware of it.

Still another significant improvement to operation of the Air Traffic Control System if the dismissed controllers were reinstated would be the on-the-job-training. It could be made more efficient, accomplished more often, and it would be less demanding on those few experienced controllers who have been primarily responsible for its administration these past 3 years.

Nothing in the air traffic controller's job is more stressful than having to train another controller while he or she is working live traffic, especially in today's redesigned system. Add to this the fact that if you are one of the FAA's too few, experienced controllers, you have already been working too many 6-day weeks, and training one new controller after another. Reinstating the dismissed controllers would improve this situation almost immediately.

Finally, rather than losing 30 or more experienced controllers per month through retirement and trying to replace them with totally inexperienced people, 50 percent of whom will not make the training program despite the training cost of $160,000, the FAA could be replacing those experienced controllers that they lose each month with experienced controllers from the ranks of those dismissed 3 years ago.

Citing the fact that the FAA is hiring 1,400 people to send to the training academy in Oklahoma City in order to counteract the experience level lost through attrition, is, in the opinion of one working controller, somewhat like saying that you are going to replace a doctor with a freshman in college. It simply is not enough, and it will not be in time.

These, then, are some of the problems which we have found to be most on the minds of working controllers and supervisors with whom we have been talking. Each is significant in its own way, each may be remedied but with one action, the reinstatement of experienced air traffic controllers.

Madam Chairman, in closing, I would like to point out that the answer to these problems has already been well demonstrated in actual practice over the past 2 years. During that time, for various reasons which were usually legal in nature, over 400 dismissed air traffic controllers have returned to FAA facilities where they effectively and safely perform their duties today alongside controllers who did not walk out and controllers who were hired after August 1981.

At Boston Center, there have been 32 controllers reinstated, and at Cleveland Center, 37. There are areas of operation within both of those centers in which the reinstated controllers make up 50 percent of the qualified staffing. Here at Washington National Tower, six reinstated controllers constitute approximately 25 percent of the fully qualified staff.

One of these controllers at Washington National Tower has been elected by his peers to represent them on the Human Relations Committee, and one other has recently been nominated to serve on that committee.

In every case of reinstatement that we have been able to investigate, we have found that despite the fears of the reinstated controllers and those who were to receive them at the workplace, there was not one problem of a serious nature or any known instance where anyone felt that safety had been compromised. Additionally, on the average these reinstated controllers are becoming fully qualified within 90 days.

The dismissed air traffic controllers represent $1 billion in experience and talent. The vehicle to establish a reinstatement program is available, all that remains is to try it. We believe the results will speak for themselves.

The United States Air Traffic Controllers Organization believes that a change of past policy is necessary. The time has come to look forward, not back. Today the problems of our air traffic control system call for an innovative stance, one which would break with the old fears and animosity and provide us all with a reason to work together again.

In addition to those remarks, I would like to add one thing. From some of the remarks that have been made today, some would believe that peak hours, the problem we are facing, are some new phenomenon. I was an air traffic controller for 14 years, from 1964 to 1978, peak hours were always a problem then.

They quote now where delays are up 80 percent. The only correlation you have there is that in 1981, 80 percent of the air traffic controllers were fired. Traffic is only up 6 percent, and the same runways are in place. I would submit to you that a very earnest look needs to be taken at this possibility.

I would also point out that USATCO has no vested interest in this from the standpoint that we are not organizing the work force. We stand to benefit nothing directly. We believe that it is to the benefit of the system, and we ask this committee to seriously consider that option.

Senator KASSEBAUM. Thank you, Mr. [illegible].

I have a couple of questions, but I also have to get over and vote. I think that Senator Exon will be back in just a minute.

I apologize, Captain Duffy, Mr. Hitchcock, and to all of you for bearing with us through this long afternoon. We will be back shortly.

[Recess.]

Senator Exon [presiding]. The subcommittee will reconvene. I am sorry that I have been in and out also today.

The next witness is Captain Duffy of the Air Line Pilots Association.

STATEMENT OF HENRY DUFFY, PRESIDENT, AIR LINE PILOTS ASSOCIATION; ACCOMPANIED BY JACK HOWELL

Mr. Duffy. Thank you, Senator Exon. With me today is Jack Howell, who is the Chairman of our Air Traffic Control Committee.

I am going to greatly cut down my remarks because it is late. I don't want any importance to come off of the shortness of the remarks. It is an important hearing for the 34,000 airline pilots that we represent and we want that made clear in the record.

I guess our main concern is that a lot of the emphasis we are hearing here is on delays and the inconvenience that that is causing the travelling public as opposed to the true safety of the system. As a matter of fact, the FAA's main safety control device is flow control, and in fact that is causing a lot of the delays.

The scheduling committee that has just met, I am sure, has done some find things to ease some of the peak hour congestion, but in fact the notice of proposed rulemaking that the FAA put out about controlling the number of flights per hour talked about five causes—technological capacity, controller staffing, runways, weather, and aircraft demand. The scheduling committee is only going to address the aircraft demand part of those five very important reasons why we have got problems in our air traffic control system.

Senator Exon. Could I interrupt you just a minute. How come they didn't mention Friday as a sixth one. Friday has to be, because I always travel on Friday. Friday may have been a sixth one.

Mr. Duffy. It is this whole problem of peak scheduling, and more people do want to go on Fridays and come back on Mondays. We are concerned. Scheduling peaks come and go. We think, just as Mr. Ignatius said, things suddenly got better in September, and they mainly got better in September because they always get better in September. We have less people travelling. We are away from the peak summer traffic.

We don't want that, in any way, to ease anyone's concerns about the system, because our concerns are more about the safety of the system than the effect that the delays have on the travelling public. We think that a lot of the things that are being done are more cosmetic than real. We think there is one basic fix for the system and that is to increase system capacity.

There is a long-term plan, the National Airspace Plan, and we fully endorse it. We hope you fund it. It is going to take care of us in the next decade. In short run, we think you have to put experienced controllers in the system. There are four sources of more controllers in the system. One is to just hire new people, and I heard Admiral Engen say that he was doing that.

You can retain potential retirees, and the Congress has approved that. You can start cross-utilizing personnel, and I think the FAA is doing that. The other source is that group of experienced controllers that are out there. We think that purely for political reasons that source of experience is not being looked at, and we think that that is a serious mistake.

System capacity or short-term improvement, there are not many places that you can turn, and we think that that is an available well of experience. We think that this administration, through the FAA, should look in that direction.

We think that everyone should be concerned. We were at Congressman Levitas' hearing a couple of months ago and heard the controllers talking about being denied sick leave, having vacation shuttled around, and generally being exposed to fatigue ridden situations. That would concern me in the cockpit. It concerns me that the people controlling us from the ground might be exposed to that sort of thing. We think that this committee should be very concerned with it.

We are disturbed by the continuing reliance on the see and be seen concept, how we handle our mix of VFR and IFR traffic, and VFR and other VFR traffic. We think that that is a largely outdated concept.

I know that from inside of the cockpit, the new airplanes are requiring us more and more to keep our heads down and do things inside, without being able to look outside. If any more emphasis is going to be put on requiring us to identify traffic by looking outside, we have serious problems coming because the demands of the airplanes themselves are forcing us to do just the opposite.

We think that the enhanced collision avoidance system has got to be emphasized more by the FAA. There was supposed to be a trial program begun by Piedmont in August, and I just heard Admiral Engen say that it has now been delayed until December. I can give you a whole schedule of prior delays that have been scheduled and then cancelled.

Senator Exon. Why?

Mr. Duffy. There are a lot of reasons out there, Senator.

There has been a lot of competition between the different manufacturers of the systems. There has been a great resistance from the airlines, I think, to jump into the system.

A lot of it is just pure bureaucracy. It is a slow moving process over there in the FAA sometimes. We push and shove, and we get a lot of resistance.

We need to have the technology in the airplanes. No one questions that we need a very good test of the equipment before we make the airlines buy it, but there is no question that we need the equipment.

We have made a whole series of quick, medium and long range suggestions, Senator Humphrey was discussing some of them earlier. They range all the way from turning on transponders, something as simple as that on airplanes that are not currently being required to turn them, to increasing the number of terminal control areas, all the way up to engineering certification requirements that say you have to put bigger windshields in airplanes.

The engineering technology exists right now, but we continue to build derivative airplanes that don't require it. If we have to look outside, give us a windshield to look out of.

In short, let me just say that we have had several meetings with the FAA. They are listening to what we are saying. Things move awfully slow, slower than I think the users of the system or the travelling public should expect. I think that there has to be more of a priority on it.

We want the Congress to put the priority on these trust funds. I have heard all kinds of numbers. I came in here with a $3 billion number, and that gusted up to $5 billion sometime today. Whatever the amount is, we need to spend that money on the system.

Part of the delays that we are experiencing today is because some Congress or some administration at an earlier time didn't pull enough money out of the available trust funds. Five years from now, we shouldn't be sitting in another hearing like this with that same complaint.

Senator EXON. I will go to the last witness, but there is just one point.

When this previous Congress, or this previous administration, and usually it is a combination of the two, did not fund what they should have funded, I suspect that when they did take or did not take the proper action, they did not consider what "deregulation" would do to the system.

You did not mention it specifically, but has not deregulation manifoldly increased traffic, at least in two major facilities, and hasn't that caused a lot of the problem also that might not have been there had we not had deregulation?

Mr. DUFFY. I think absolutely. Of course, I could preach your sermon on deregulation, but that was last year's subject. I guess we lost our battle on making the argument for deregulation.

We do feel strongly about one thing, though, we don't think the Government should get in the regulation through the FAA. The airlines do it a lot better. If somebody is going to regulate traffic, we think the airlines ought to do it themselves, and not the FAA. We feel very strongly about that.

Senator EXON. Thank you.

[The statement follows:]

STATEMENT OF THE AIR LINE PILOTS ASSOCIATION

Good afternoon, Madam Chairman, and members of the Subcommittee. I am Captain Henry Duffy, President of the Air Line Pilots Association. Accompanying me today is Jack Howell, Chairman of our Air Traffic Control Committee. We are testifying today on behalf of the 34,000 ALPA members who fly for 45 airlines. We commend the Subcommittee for its ongoing concern about the safety of the system in which we operate.

We appreciate the opportunity to appear before you today and present our views on the status of our ATC system.

Madam Chairman, during the past three years ALPA has testified on several occasions before various congressional committees on the adequacy and safety of the air traffic control system during the rebuilding process since the PATCO strike of 1981. On June 16, 1983, we presented our views on the National Transportation Safety Board's "Follow-up Study of the United States Air Traffic Control System." In that report the Board stated in part that "the existing margin of safety has to be determined by means of investigation of "incidents or other indicators of potential accidents." The Board, at that time, concluded that such a determination was difficult because of a definite trend of unreported incidents of all types. ALPA agreed with that conclusion, and we still believe that a large number of near-miss situations are not reported. However, we do have a much better means of collecting data on "incidents or other indicators of potential accidents" today thanks to the FAA. The means to collect this data has been provided through implementation of the Quality Assurance Program. Data from this program and other sources show us that in 1982 we had 368 ATC system operational errors. This number increased to 715 in 1983, and based on information available to us, it now appears that we will have over 1500 operational errors in our ATC system during 1984.

ALPA still supports the National Transportation Safety Board recommendation A83-40 which was intended to improve compliance with existing directives and provides guidance to air traffic controllers and staff on the use of the FAA-sponsored NASA Aviation Safety Reporting System to supplement existing incident reporting programs. But we are not aware of any FAA action on this recommendation. The NTSB also commented on the limitations of the "see-and-avoid" concept of flight. Recent incidents, which have been widely publicized, are clearly indicative that the Board's concerns are well founded. Nothing could be more conclusive in this regard than the recent midair collision at San Luis Obispo. The "see-and-avoid" concept, while it may be a generally accepted mode of operation by some, is not as reliable as proponents may believe. That is why ALPA (recognizing that the U.A. Air Traffic Control System is not and probably never will be able to provide separation to all aircraft) continues to press for the expeditious development and implementation of an Enhanced Traffic Alert and Collision Avoidance System (ETCAS).

On June 26, 1984, ALPA again testified on the status of the ATC system. Then we were pleased to acknowledge the dedication and professionalism of the Air Traffic Controllers. They have performed admirably under stressful conditions against a rapidly growing and unprecedented demand for services during the past 12 months.

It is this continuing and growing demand to handle more and more aircraft placed on a relatively inexperienced controller work force which causes us concern, and recent events substantiate our concern. In some parts of the country, facility managements are publicly acknowledging the controllers' inability to provide services which pilots have been accustomed to receiving in the past. In fact, automatic broadcasts are being made on certain frequencies alerting pilots "not to expect radar traffic advisories because of controller workload."

The increasing number of aircraft operating in the ATC System, coupled with the rapidly increasing number of operational errors which are occurring in the system, lead us to conclude that some operational, procedural, and regulatory changes must be made if we are to retain an acceptable margin of safety. However, it appears that the primary emphasis of the FAA activities concerning the ATC System is directed at delays. This is evidenced by the recent Notice of Proposed Rulemaking directed at eliminating airport delays and the airline scheduling meetings sponsored by the FAA which are directed toward eliminating traffic peaks at our major airports. The FAA, in its Notice of Proposed Rulemaking, states that delays are a function of technological capacity, controller staffing, availability of runways, weather conditions at airports and en route, and aircraft demand. The FAA proposed rule and the airline scheduling meetings are directed only at the aircraft delay function. Therefore, if the rule and the meetings are 100% successful, we can only expect a partial solution to the delay problem. Another factor conveniently forgotten is that airline schedules change with the seasons; therefore, many of the delays experienced this summer will disappear during the winter season, primarily because the passenger demand decreases. We believe these activities are no more than cosmetic efforts which may have a slight impact on the delay problem, but will do absolutely nothing to protect the safety standard of our system.

There is also an additional delay function which the FAA did not mention. That is their flow control system. Whenever the FAA implements flow control, delays are a direct result. However, the FAA only implements flow control when it is necessary to protect ATC facilities which are understaffed and/or overworked. In other words, the delays resulting from flow control are directed at maintaining an adequate margin of safety within the system. Therefore, we support the FAA's flow control procedures.

As we said in previous testimony, it is rather easy to point to all the problems and to criticize inaction with almost perfect hindsight. It is difficult, but more effective, to offer solutions, and we have offered to the FAA the following recommendations for making a good air traffic control system even better.

IMMEDIATE ACTION

1. Initiate an emergency change to FAR Part 91 that would require all aircraft carrying transponders to turn them on in flight.

Rationale: FAR 91.24 requires operating Mode C equipped transponders for aircraft above 12,500 ft. and in Terminal Control Areas (TCAs). While the Airman's Information Manual states transponders "should" be operating while airborne, it is not a regulatory requirement in airspace other than that listed above. Establishing such a requirement would aid safety in the National Airspace System by providing a higher degree of VFR target visibility to radar controllers in ARTCCs and terminal area facilities. While the immediate benefit of this change would be as just described, a concomitant feature for future use would be the additional protection provided all TCAS-equipped aircraft whose system effectiveness depends on transponders for threat detection.

2. Require all controllers to initiate computer tracks on all aircraft above 12,500 ft., so as to derive maximum use of the "conflict alert" feature of the ARTCC computers, which can be the genesis of a safety advisory.

Rationale: Since all aircraft above 12,500 ft. are required to operate a Mode C equipped transponder, the ATC system has the capability to generate computer tracks on these aircraft if controllers initiate them. Such tracks would be subjected to the automatic "conflict alert" feature of the ARTCC computers and thus a vital safety service to aircraft operating in this airspace.

ALPA would favor an even more extensive use of this capability by having all Mode C equipped aircraft entered into the system, regardless of their altitude or type of flight plan. We recognize that controller workload and computer capacity may not permit adoption of this concept at this time, but it must be an FAA goal for the future.

3. Require the mandatory issuance of traffic advisories to air carriers operating above 12,500 ft.

Rationale: Flight Operations conducted above 12,500 ft. and below FL 180 are subjected to a mix of IFR and VFR traffic not constrained by the 250-knot speed rule, which applies below 10,000 ft. Many of the VFR aircraft operating in this higher altitude structure are not in contact with ARTCC controllers, but they are displaying transponder codes with altitude reporting. Thus for all practical purposes they are "known traffic" to ATC and they are often subjects of traffic advisories. Realizing controller workload may prevent the issuance of traffic advisories to all aircraft operating in this higher altitude structure, available resources should be allocated to those flight operations carrying the maximum number of people. This means the air carriers. Controllers should prioritize traffic advisories, and issue those that involve traffic in close priximity to air carriers on a mandatory basis.

NEAR-TERM

1. Implement aditional TCAs at those airports now having qualifying traffic counts.

Rationale: Following the designation of the current group of existing Terminal Control Areas, a moratorium on this type of airspace action was declared by the FAA. Since that time, the traffic activity at several airports may have reached the criteria used in establishing the current TCAs. To ensure that an equal level of safety is provided throughout the National Airspace System, the FAA should again survey all major air carrier airports to see if any meet the criteria used for establishing current TCAs, and if so, initiate airspace action to establish them where required.

2. At other busy air carrier airports, expidite the designation of Airport Radar Service Areas (ARSAs) similar to the type now being tested in Texas and Ohio.

Rationale: There are many airports having a significant number of FAR Part 121 and 135 operations that, while not meeting original TCA requirements, should be afforded a higher degree of TCA service than is currently being provided. The Airport Radar Service Area (ASRA) concept now in use at Austin, Texas and Port Columbus, Ohio appears to be an excellent means of elevating the level of safety at these locations without imposing unreasonable operating constraints on other elements of the aviation community. The ARSA concept is less restrictive than TCA requirements, but more efficient than the rules governing Stage III Terminal Radar Service Areas (TRSAs).

A significant number of airports served by air carriers, and some with a high number of scheduled commuter flights, still do not even have control towers, let alone ARSAs! The FAA should initiate immediate action to eliminate this obvious safety deficiency and to provide such service to communities now having to contend with this problem. ALPA encourages the FAA to move quickly on contracting with the private sector for VFR towers at these locations. Contracting for these services can provide significant cost savings for the federal government, and the level of safety to the public would be raised considerably.

3. Revise current rules to require Mode C equipped transponders for all operations above 10,000 ft.

Rationale: At the present time, FAR 91.24 requires Mode C equipped transponders only above 12,500 ft. FAR 91.70 authorizes speeds above 250 knots when operating at 10,000 ft. or above. In that 2,500 ft. altitude structure, operations can be conducted at high speeds that reduce a pilot's ability to "see and avoid." Air traffic controllers are deprived of essential altitude information from VFR aircraft that could be used to provide traffic advisories to aircraft operating within the ATC system. Revising FAR 91.24 to require Mode C at 10,000 ft. and above would provide compatibility with FAR 91.70 enable controllers to assist pilots in meeting their "see-and-avoid" responsibilities, and at the same time, elevate the level of safety provided the traveling public.

4. Concurrently, raise the top of all existing TCAs to 10,000 ft.

Rationale: At the present time, there is no standardized top altitude for the existing TCAs. Some terminate at 7,000 ft., others higher, based on local airspace configurations and TRACON/ARTCC letters of agreement. This is another example of the nonstandard airspace configurations within the National Airspace System. If FAR 91.24 were revised to require Mode C transponders for all operations at 10,000 ft. and above, and the top of all TCAs were raised to that level, air traffic controllers would be provided the opportunity to have precise information on all traffic that could affect the safety of air carrier/commuter arrival and departure flights at TCA-designated airports and thus afford a majority of the traveling public a higher degree of safety. This concept would also serve to standardize airspace configurations throughout the NAS and thus help remove any misunderstandings by general aviation pilots about the configuration of TCAs.

5. Expedite the development of the Enhanced TCAS II, with its horizontal resolution advisories.

Rationale: The development of an effective airborne collision avoidance system is long overdue. While the TCAS family offers many advantages over earlier designs in terms of independence, equipment, and cost, and while it has even found support in international aviation communities, its development is currently stymied within the FAA. The problem relates to the vertical-only resolution capability of the Minimum TCAS II. On the other hand, the Enhanced TCAS II verson offers the capability for more accurate bearing information and both horizontal and vertical resolution maneuvers, and it is much more appropriate for airliner installation. Thus, the FAA should increase the emphasis on the latter version since the simpler version is inadequate or airliner needs.

6. Formalize training in visual scanning techniques and disseminate to all users, particularly air carriers, for inclusion in recurrent training.

Rationale: FAR 91-67 requires pilots to "see and avoid" other aircraft in VFR weather conditions. The effectiveness of this concept has been challenged in reports by the National Transportation Safety Board and other informed factions of the aviation community. Since this philosophy will continue to be a part of the overall safety scheme, an effective and standardized technique of visual scanning should be developed, documented, and taught to pilots. This information should become a mandatory part of air carrier pilot recurrent training and the biannual flight review for general aviation pilots.

7. Expand the controller work force.

Rationale: One of the major constraints in system capacity is the lack of qualified controllers. This deficiency also directly impacts the capability of the ATC system to provide safety-related services such as traffic and severe weather advisories. Considering the impact this shortage has, an expansion of the size of the ATC work force is in order. When compared to 1981, right now about 70 percent of the controller work force is handling 110 percent of the traffic. Controllers are working overtime, without vacations, and without adequate sick leave availabilities.

There is a need for more controllers, and there ar four and only four means of satisfying this requirement:

1. Hire and train new personnel.
2. Retain potential retirees.
3. Cross-utilize personnel on hand.

Rehire some former controllers.

Each option has advantages and disadvantages that must be evaluated by the FAA to achieve optimal effectiveness. ALPA has not made such assessments, and does not intend to do so; they have only identified the options, but ALPA would support the FAA in whatever option(s) it chooses.

LONG-TERM

1. Expedite the development of a Cockpit Display of Traffic Information (CDTI), which could be sued to provide "situational awareness" in air carriers.

Rationale: The FAA's goals of improved ATC services through consolidation and automation mean that human monitoring of traffic situations by controllers will be diminished dramatically. As an alternative to this undesirable consequence, the display of traffic information in the cockpit would allow the involved flight crews to monitor their own traffic situations. It would also allow crews to maintain sequences and refine separations as established by the ground-based system. Pilots do not want "do-it-yourself" ATC, but they do want someone to be available to intervene if necessary, and if the FAA drops that function, the pilots will have to pick it up.

2. Require the design of improved windshield visibility in air carrier aircraft.

Rationale: FAR Part 25 requires derivative aircraft to meet only criteria in effect at the time the original design was filed with the FAA. Thus several models of aircraft can evolve that do not take advantage of state of the art developments to improve safety. One prime example is windshield design. Aircraft are being built today that meet criteria acceptable in the 1950s. Today's engineering would permit vastly improved cockpit visibilities; but to save cost on cockpit redesign, no such improvements are made to these derivatives. Meanwhile traffic densities increase, separation standards are reduced, head down cockpit programming workload increases, and yet the FAA hangs on to the "see-and-avoid" concept as a primary tenet of traffic separation, with still no effective collision avoidance system being available.

3. Require strobe lights on all aircraft.

Rationale: In VMC conditions, todays air traffic system relies primarily upon the "see-and-avoid" principle. Even flights operated under IFR are expected to see and avoid other VFR aircraft. With todays increased traffic, especially in terminal areas, strobe lights can assist pilots in visually acquiring other aircraft. In a see and be seen environment, a few seconds can be important in giving the pilot sufficient time to avoid a collision considering that even below 10,000 ft., closure speeds can be as high as 500 knots. The majority of commercial and general aviation aircraft are already equipped with strobe lights, and the costs for retrofit of these anti-collision lights should not have a major impact on aircraft owners since such lights are readily available and prices begin at about $200.00 for general aviation aircraft.

These recommendations have been discussed in detail with the FAA, and we are encouraged by the manner in which they were received and addressed. Also, all of the recommendations listed as "Immediate Action" have been submitted through the FAA's National Airspace Review process.

There is one additional recommendation I would like to make, Madam Chairman. It is a recommendation to the Senate and your colleagues in the House of Representatives. We recommend that you adequately fund the FAA program for improving the Air Traffic Control System. This program was initiated by Administrator Helms in 1982, and we believe it is the only way in which we are going to assure adequate ATC system and airport capacity in order to satisfy the public demand. We realize that securing such large dollar amounts in today's cost-conscious environment is extremely difficult. However, you must remember that funding for these ATC improvements is primarily being paid for by public, airline, and general aviation sources. Taxes from these sources have produced a surplus in the aviation trust fund of over $3 billion. We must ensure that this money is spent as it was intended when this special trust fund was established.

Senator EXON. Now we will go ahead with Mr. Hitchcock, Aviation Consumer Action Project, who is our last witness.

STATEMENT OF CORNISH F. HITCHCOCK, LEGAL DIRECTOR, AND D. MICHAEL HANCOCK, DIRECTOR, AVIATION CONSUMER ACTION PROJECT

Mr. HITCHCOCK. Thank you, Senator.

Mr. Hancock from our organization will be sharing the statement with me, which we submit for the record. We would like to summarize it, and I am going to have him start off.

Senator Exon. Without objection, we accept that for the record.

Mr. Hancock. Thank you, Senator Exon. On behalf of the Aviation Consumer Action Project, we appreciate the invitation to testify this afternoon on issues affecting the air traffic control system.

Since the PATCO strike in 1981, we have been concerned that FAA's recovery plan and its 1984 back to normal target date were unduly optimistic. Unfortunately, it now appears that our concerns were justified.

The current ATC system, despite the best efforts by the controllers, is overburdened and unable to handle the current level of traffic which ran well ahead of prestrike levels of the past summer. As a result, the travelling public is experiencing unprecedented delays and is concerned about a deterioration in the margin of safety built into the system. Without further steps from the FAA to address these problems, the situation will get worse before it gets better.

In assessing the current level of safety in the system, it is important to note that many of the problems stem from a decrease in both the quantity and the experience level of controllers. A look at the raw figures is very revealing. At the time of the strike, there were 6,000 more full-performance radar controllers and nearly 5,000 more tower controllers than today.

The FAA has recently acknowledged that their projected staffing levels are inadequate, and they will further increase the controller workforce. There is a premium in getting controllers back into the towers as quickly as possible.

Complicating the recovery effort is the rather sudden and dramatic surge in traffic since the beginning of the year. Nearly all of the traffic restrictions imposed on the busy airports after the strike were removed early in 1984. At the same time, the economy improved, and the airlines began adding flights to handle the expected surge in air travel. Taken together, these factors taxed the capabilities of the ATC system.

Recently, the public started asking what price it was being asked to pay for the increased demand on the system. The recent highly publicized near mid-air collisions and the actual collision in California suggest that the system is not working as it should.

FAA has announced several steps to deal with the problems in the ATC. While ACAP welcomes the serious attention the problem is receiving, there are several specific points of concern, which we think the subcommittee ought to explore with the FAA at greater length.

In particular, we are troubled by the agency's announcement that it would allow planes to be stacked in the air while they wait for a clearance to land. We are not at all sure that this is a good idea. Stacking is a complicated procedure, and a number of the controllers have little training and no experience with it. Given the other concerns about the system, the reintroduction of stacking at this time might be a case of too much, too soon.

A second area of concern is FAA's proposal to reduce minimum separations between aircraft while they are en route to an airport while they are on approach. These reduced separations may be shrinking the margin of error for the controllers creating a safety hazard. Both stacking and reduced separations, we fear, may unduly compromise safety.

I will not turn it over to Mr. Hitchcock for some more comments on the delay problems.

Mr. HITCHCOCK. Thank you. I wanted to discuss briefly some of the problems that have arisen with respect to the flight delays this summer which have made travel a lot more difficult and inconvenient for many of us who fly. I think everyone recognizes that something has to be done about the problem, but we are concerned that FAA seems to be headed in a direction that might cause different problems from the ones it is trying to solve.

When Eastern Airlines and some other parties asked the CAB for immunity to sit down and discuss the problem last summer, CAB issued a very narrow order spelling out what can and cannot be discussed, but the FAA seems to have taken a different perspective on it.

In a notice that they published in late August, they talked about the possibility of making voluntary agreements mandatory, and even slapping fines and penalties on airlines which violated these agreements. Once the discussions had closed, it seems that there were some airlines, new entrants, that had been excluded from some airports, and the proposal initially looked as if it was going to be in effect until April without any significant changes.

Frankly, we are concerned that the possibility of a heavy-handed scheduling regulation would be a great threat to competition in the industry today. Letting the airlines sit down together and decide how they are going to compete with each other has enough problems with it, but going one step further and making those agreements mandatory, without the possibility of new competition or new entry, or more fare competition, has much more significant difficulty.

I think that it is useful to put this particular issue in context. Back in 1938, when the industry was first regulated, the Congress wrote into the law a provision that forbade the CAB to regulate schedules. Back in the early 1970's, there was a lot of criticism from the Congress about some of the scheduling agreements which the CAB had approved to allow airlines to reduce capacity.

The complaint was that such agreements reduced service to a number of communities, and while it filled up the aircraft, it didn't do too much in terms of price competition or low fares that were passed on to the public.

It would certainly be ironic if, 3 months before the CAB prepares to close down its doors and go out of business, the FAA started to regulate scheduling in a more vigorous manner than the CAB ever did.

I should say that in recent days we have seen some encouraging signs out of the FAA that might try to ease some of the worst impact of mandatory agreements and that sort of thing. But as was pointed out earlier on, the problem is not going to be this winter when schedule agreements are in effect. The problem is going to be: what happens next summer when traffic starts increasing? Frankly, we are not sure what the answer is going to be to that. There was some discussion today, as some of the questioning indicated, that that is still a great unknown.

We would submit that the answer does not lie in any quick fix solutions such as mandatory scheduling agreements. We agree with much of what has been said before about the need for more controllers, improved technology, expanding the capacity, spending that money that is in the trust fund that has been mounting up—when I first got into this area, the trust fund was only $2 billion in surplus, and it has now gone up to $5 billion since then—and also some restraint by the airlines as far as scheduling and consideration by the FAA of what impact its actions have on the competitive system.

With that, I will conclude. Thank you.

[The statement follows:]

STATEMENT OF D. MICHAEL HANCOCK, DIRECTOR, AND CORNISH F. HITCHCOCK, LEGAL DIRECTOR, AVIATION CONSUMER ACTION PROJECT

Madam chairman, members of the subcommittee: On behalf of the Aviation Consumer Action Project [ACAP], we appreciate the invitation to testify this afternoon on issues affecting the air control [ATC] system.

As the only nonprofit consumer organization working fulltime on aviation matters, ACAP has long been concerned with the safety and effective functioning of the air traffic control system. Since the PATCO strike in 1981, we have been concerned that the FAA's recovery plan and its 1984 "back to normal" target date were unduly optimistic. Unfortunately, it now appears that our concerns were justified. The current ATC system, despite best efforts by the controllers, is overburdened and unable to handle the current level of traffic, which ran ahead of pre-strike levels this past summer. As a result, the travelling public is experiencing unprecedented delays and is concerned about a deterioration in the margin of safety built into the system. Without further steps from the FAA to address these problems, the situation will get worse before it gets better.

In assessing the current level of safety in the system, it is important to note that many of the problems stem from a decrease in both the quantity and the experience level of controllers. A look at the raw figures is revealing. At the time of the strike, there were 13,133 full-performance radar controllers out of a total of 16,069 controllers. Today, there are only 7,000 full-performance radar controllers out of a total work force of 11,885. The remainder are either working as developmental controllers, or else they are not yet qualified to handle radar scopes.

In making these comparisons, it is important to emphasize that we are not criticizing the efforts or dedication of the current crop of controllers. What we are saying is that they cannot and should not be asked to carry the load all by themselves. The FAA acknowledges that it is currently about 1,000 controllers below the level it deems adequate. That fact alone underscores the need to put a premium on getting additional experienced controllers into the towers as quickly as possible.

Complicating the recovery effort is the rather sudden and dramatic surge in traffic since the beginning of the year. Nearly all of the traffic restrictions imposed on busy airports after the strike were removed early in 1984. At the same time, the economy improved, and the airlines began adding flights to handle the expected surge in air travel. Taken together, these factors taxed the capabilities of the ATC system.

Recently, the public started asking what price it must pay for this increased demand on the system. Here in the Washington area, for instance, there were four highly publicized near-midair collisions or operational errors during a 10-day stretch this summer. Several weeks later, there was an actual midair collision involving a commuter aircraft and a private plane near San Luis Obispo, CA. While the FAA points to a generally downward trend in near-midair collisions in recent years, the evidence still suggests that the system is not working as well as it should.

Several weeks ago, the FAA announced a major effort to deal with problems in the ATC system. While ACAP welcomes the serious attention the problem is receiving, there are some specific points of concern.

In particular, we are troubled by the agency's announcement that it would allow planes to be stacked in the air while they wait for a clearance to land. Stacking was abandoned for safety reasons after the 1981 strike, and airlines had to absorb ATC delays through flow control procedures, which made planes wait on the ground until they could be safely handled. We understand that the airlines strongly favor stacking, in the hopes that they can calm down outraged passengers by at least taking off on time. We're not so sure this is a good idea. Stacking is a complicated procedure, and a number of current controllers have little training and no experience with it.

Given the other concerns about the system, the re-introduction of stacking at this time might be a case of too much, too soon.

A second area of concern is the FAA's proposal to reduce minimum separations between aircraft while they are en route to an airport and while they are on approach. By reducing the en route separations from 2,000 feet to 1,000 feet and approach separations from three miles to 2.5 miles, the FAA may be shrinking the margin of error for the controllers. We are interested in the FAA's safety justification for such a move, for we are afraid that it might unduly compromise safety.

In our view, the FAA's problems with making the system function safely and smoothly were exacerbated by its decision earlier this year to declare victory over the PATCO strikers and lift most of the remaining flight limitations at busy airports. This summer has seen an unprecedented increase in flight delays, and in the first half of 1984, delays ran 76 percent ahead of the same period in 1983.

Everyone recognizes that something must be done about this problem, which affects consumers and airlines alike, but we are concerned that the FAA is headed in a direction which may create more problems than it solves.

In August, Eastern Airlines and several other parties asked the Civil Aeronautics Board for antitrust immunity to permit airlines to discuss how to voluntarily reduce peak hour traffic at six congested airports (La Guardia, JFK, Newark, O'Hare, Atlanta and Denver). The CAB issued a very narrow order which carefully spelled out what could and could not be discussed. However, the FAA, under whose aegis the airline discussions took place, had a different perspective on the question, and it proposed taking action that would be extremely anticompetitive and contrary to the best interests of the traveler.

In a Notice published in late August, FAA indicated that it might make voluntary scheduling agreements mandatory and punish any airline that added extra flights with fines up to $1,000 per incident. To make matters worse, there were indications during the negotiations that the FAA would keep these agreements in force for a full 6 months, until April 1985. And once the negotiations ended, four new entrants found themselves totally locked out of O'Hare.

We regard heavy-handed scheduling regulation as the greatest threat to competition in the industry today. Letting airlines sit down and decide how to compete with each other has significant problems by itself. By going one step further, however, and making voluntary scheduling agreements mandatory, the FAA would be stifling airline incentives to compete on fares, and it would also wipe out any meaningful threat of new entry, especially from new airline companies.

It is useful to put this issue in context. When airline routes were first regulated in 1938, Congress explicitly barred the CAB from regulating schedules. In the early 1970's, the drive for deregulation was fueled by CAB decisions which allowed airlines to sit down together and collectively decide which flights they would eliminate. Initially, the rationale was that this eliminated wasteful competition, though after the 1973 OPEC oil embargo, the agreements were defended on the need to reduce fuel consumption.

These agreements helped fill up airplanes, but the public did not benefit from lower fares, and the quality of service declined at various cities. Entry into new markets was also blocked at this time, in part by the CAB's five year route moratorium. It would be the supreme irony if, at the same time the CAB prepares to close its doors, the FAA began to regulate airline scheduling more vigorously than the CAB ever did.

In recent days, we have seen encouraging signs, such as the FAA's reopening the question of access by new entrants and some rumblings that scheduling agreements might be revised monthly, in order to accommodate new entry on a more frequent basis. Despite these positive signals, the matter does not end there. Delay problems will not be as severe this winter, when any scheduling agreements are in effect. The real question is: what will happen next spring and summer, when traffic is expected to pick up again?

The answer lies not in quick fix solutions such as mandatory scheduling agreements. Instead, the answer lies in a concerted program of more controllers, improved ATC technology, expanded airport capacity, airline restraint when it comes to scheduling, and consideration by ther FAA of competitive factors in setting policies to relieve airport congestion. Thank you.

Senator Exon. Thank you very much.

First, let's get back to this matter of scheduling, and I would hope that the aviation consumer action group would also recognize that there is more to protecting the consumers than just the price of the aviation. This is my opinion as a frequent traveler.

Let me tell you what happened to this Senator a couple of weeks ago on good old United Airlines. I went to fly out to Chicago, where I have to go to get home. I was there on time. They announced a half-hour delay, which was understandable. When I am either sitting on an airplane waiting on the ground, or sitting in the passenger section, I don't like it, but at least I have the feeling that it is a matter of safety. I don't want to be flying around up there where I shouldn't be, so I kind of consider that.

Finally, they loaded us on the airplane. They got everybody packed in, every seat, of course, taken up. I just got seated, and they closed the door. The pilot said, "I am sorry to advise you that we are going to have at least 45 minutes before we take off. Therefore, we don't want to keep you on the airplane that long. Why don't you deplane, stay in the area and we will be leaving at a quarter till six."

So then everybody is up and unpacking—we treat cattle better than that when we load them in Nebraska to go to the slaughterhouse. It took us 15 or 20 minutes to get that all unwound. As we are going out, the pilot said, "We just had another delay. I am sorry, it will probably be more than 45 minutes. We won't leave before 6 o'clock." So two of us got off, and we went to get something to eat. We got back at 7 minutes until 6, and the airplane was pulling away from the gate.

I really think, you are out there when they tell you to be there. You get on the airplane an hour and a half late, and then they tell you it will be another hour, and then they leave early. I understand the frustration of pilots and people. If you don't get out there and take off right now, then you are going to be delayed a little bit more.

Let me get back to this matter of see and be seen. I am not a pilot, but I have flown an awful lot. That used to be fundamental in aviation before we had all of this technology, but I agree that it is very difficult to see out. I look out of a helicopter today and I see just the opposite. A helicopter is a different machine, but it still flies. They still have the see and be seen, and they have to have windows to land.

In the end I recognize, and I thought of that when we had some of the earlier testimony here about looking out, instrument pilots are taught and trained that theoretically you don't ever have to look out your windows. In fact, when you are flying instruments, you don't look out because there is nothing to see. So you are trained, like you said, Mr. Duffy, not to look out the windows.

I think that we ought to get back to where there is more than one person in that cockpit. I know you have many things to do, especially when you are coming in on final, but it seems to me that there has to be some responsibility also for seeing and being seen after everything else is cleared. If there is not, then you are relying too much on a computer error or an air traffic controller error.

One last thing that I might comment on. Since there seems to be a prohibition against hiring very many, if any, of the controllers that went on strike—we could argue that all day, I think that decision has been made, I don't think they are going to be hired back—

has there ever been any consideration, to your knowledge, by the powers that be in the administration today to maybe go out and hire back, at least temporarily, until they can get these new people on board, some of the retirees from the controllers union that may have retired a week or a month before the strike?

There must be some of those people out there that did not take part in the strike, and maybe they could be brought back for 6 months or 6 weeks or a year-and-a-half to alleviate the situation that I think exists. Despite the testimony today, I have the feeling that we need more air traffic controllers today.

Mr. IGNATIUS. I would like to address that. I said earlier that the FAA could make much more innovative use of part-time people, and what I had in mind specifically, Senator Exon, was similar to what you have in mind. In other words, someone who is retired often doesn't want to work full time, but would enjoy working part time.

What do we mean by part-time? Let's arbitrarily say, 20 hours a week, rather than a normal 40-hour week. If you could do that with part-time people and bring them in at the morning rush period and at the evening rush period——

Senator EXON. And Friday evenings.

Mr. IGNATIUS. And Friday evenings, as you pointed out, when the peak demand occurs, then you have a more efficient system because you are not staffing for the peak. You are staffing for the norm, and you are augmenting your normal workload with part-time people who come in during the period when the workload exceeds the norm.

There are problems in doing it having to do with civil service rules, and one thing or another, but the Congress has shown a tremendous willingness here to look at this matter and to respond as in the case of the recent legislation you passed that extended the opportunity for retiring people to stay on the job. I would think that if FAA would come up with a sensible program here, you would look at it with a constructive eye, and we should assume that if it makes sense, the Congress will see that and do something about it.

In short, there is lots we can do, and this will help next year, you know. Coming back to your question, Senator Humphrey, what about next April? If we could come up with a sensible part-time program, that would help.

The general aviation people, the NBAA, that particular element, has proposed that they will avoid what are called the "red sectors," that is the very busy sectors, if the FAA would tell them where those sectors are and when they are busy. They want to cooperate so that we don't load the en route system to cause the kind of delays that none of us want, and that Senator Exon just gave a personal example of a moment ago.

Senator EXON. I will turn it over to you, Senator, for questions.

There is one other place that they might go to get some retirees for full-time or part-time work for a very limited period of time, and that is those qualifed air controllers who are retiring from the military services. Certainly, we used those people during the strike, maybe we could attract some of those in who would normally be overage from the standpoint of coming on board, but if we could hire them for a period of time.

Mr. IGNATIUS. That is clearly an area to look at. Most of the military controllers are tower controllers, and the problem is more in the en route system. The shortages are more there and the problems are more there. But it is still an area that is well worth looking at, and I would think that that is just the kind of thing that more could be done with.

Mr. EADS. Senator, if I might, I would like to speak to that for just a moment. As far as bringing back the retired controllers, there are a couple of things that point out that it is probably not a good idea.

First of all, in 1972, the Congress saw fit to pass Public Law 92-297 which identified the air traffic control profession as a young person's game. Obviously, we don't want to make a generalization as there are exceptions to every rule, but it was clearly brought out there that there was an age limit as far as people who could be brought into the system, and there was an age at which they should retire and get out of the system based on the facts that were obvious and studied as far as reflexes and so forth.

The other thing that comes to bear, as you are talking about bringing in people who, for lack of a better term, are past their prime with respect to the profession, and you are going to bring them in on a part-time basis. Air traffic control is not a part-time profession.

We believe quite honestly, without going into it too far, you are really asking for problems if you get into a program that relies on that, because keep in mind that those people who are brought in on a retired basis, which we have in some cases around the country right now, can leave any time they want. There is no guarantee that those people will stay on the job. In fact, that has happened at some locations around the country already.

Senator EXON. What you are saying is that, you couldn't even pick up a few people that would be highly qualified. I am not suggesting that these people be put in the system for the long term. I am talking about until some of these people that were referred to by the administrator would be coming on board. It would be a matter of months, a year and a half at the outside.

I don't know that it is going to solve the problem, but if we need more experienced air traffic controllers, and if there are some out there that do not have the tabu of the strike on them, might it not be a good idea to fill the gap, if we think we are short. If we don't think we are short, then we shouldn't hire them.

Mr. EADS. You were out of the room at the time I made my testimony. The point that we made there was that over the past 2½ years, and that has been updated today, 650 controllers have been brought back into the system who were fired in 1981. These people are checking out in minimum time, even supported by the testimony of the FAA on June 27. They are checking out in the area of 3 to 4 months, and there has not been any report of a problem.

In fact, today, when Senator Lautenberg asked the Administrator if he had had any problem with the people who had gone back to work, he didn't respond. All he did was smile and nod his head.

So I imagine that it is working out pretty well. There is your source of personnel.

Senator EXON. Senator Humphrey.

Senator HUMPHREY. This is one of those stressful situations where certain results are expected, and you are not entirely in control of the situation. This was my definition earlier.

I apologize, Mr. Eads, for having to leave during your testimony. I have read it. Can you shed any further light, are you in a position to do that on the Air Force Two situation? Was that controller, who was senior, I guess, supervising or training another controller? Do you know anything about it?

Mr. EADS. I probably have less information than the Administrator had.

I can tell you this, it appears from the very brief information that we got that it probably had something to do with the workload factor, and the fact that prehaps the controller was diverted to some other area of his section, and allowed the aircraft to climb to the altitude.

Senator HUMPHREY. On the workload factor, didn't the Administrator say that he was working four aircraft at the time?

Mr. EADS. That is part of the problem. Sometimes you can have four airplanes and be extremely busy if there are other factors involved. I don't know how much coordination was involved, or if there was weather involved. At this point, it is difficult to say.

Senator HUMPHREY. You mentioned resectorization, and said that it is one of the least understood matters by FAA management, by Members of Congress and the aviation community. Why do you say that it is so little understood?

Mr. EADS. This is what we are primarily being told by the working controllers and supervisors who are on the job. They say that in many cases where the blame is being laid at the doorstep of the airline, or at the doorstep of the airport, a lot of the problems are actually coming about because of the problems that the aircraft are facing en route.

There are some sectors, for example, there is one up in your neck of the woods, in Boston Center, that is a sector that used to be two separate sectors, Surrinack, NY, and Montpelier, VT, and that is now one sector. In the words of the air traffic controllers, it is a bear to work, it is a maneater, I will do anything to stay away from it if I can. Those kinds of things are a result of the FAA simply not having enough qualified people.

So when you have *X* number of controllers, and that is not enough to work the sectors you have now, you reduce the number of sectors, and that does cause a problem.

Senator HUMPHREY. It is a matter of workload.

Mr. EADS. Absolutely.

Senator HUMPHREY. Doubling up or tripling up the workload. Where two or three controllers worked two or three sectors, now one controller is working a combined sector that encompasses all of those?

Mr. EADS. That is correct.

Senator HUMPHREY. I don't know what the chairman, Senator Kassebaum, has in mind. I hope she is on her way back.

Captain Duffy, I apologize for missing your testimony. I have read it. Thank you for having submitted it beforehand, that is very helpful.

I am going to proceed under the assumption that Senator Kassebaum is not going to be here soon enough, and I have to leave soon.

Has the FAA been listening intently to your proposals, some of which seem very, very good to me, and I am not an expert on all of them.

How receptive has the FAA been to these proposals in your testimony, and do you have any hope of seeing them implemented and, if so, which? Can you give us a rundown on where this all stands?

Mr. DUFFY. We had a very good meeting about a month ago, and they listened very well and were receptive. Seeing them actually get transmitted into action is going to be something else, but the very knowledgeable questions that you asked of Admiral Engen today, I think he was responsive to.

It disturbs us a little bit. Some of these things are so obvious, like turning on transponders, that it should have been done a long time back. If they will adopt both the short and intermediate term recommendations that we made, we think that it is a long step toward enhacing the safety of the system.

It is not going to make up for the lack of controller experience and that sort of thing, but at least these things are there and they could be done very quickly.

Senator HUMPHREY. You presented these proposals formally to the FAA about a month ago, is that correct?

Mr. DUFFY. Yes.

Senator HUMPHREY. I am not in a position to suggest any courses of action as one who is not a member of the committee, but it would certainly be interesting to see what the FAA does with these suggestions.

Mr. DUFFY. Senator, one of the things that Admiral Engen has done is agree to meet with us on a period basis. We intend to run a checklist with him, and we will have the same items back at the next meeting if they haven't been accomplished at the first meeting.

Senator HUMPHREY. Very good. I have to go and vote. Thank you.

Senator KASSEBAUM [presiding]. Thank you.

I don't want to detain anybody any longer. It is the dinner hour at this point.

Mr. Eads, you mentioned that 400 fired air traffic controllers had been reinstated. Is there still quite a backlog in the system as far as hearing appeals by the former air traffic controllers?

Mr. EADS. We were conservative in our estimate because we didn't want to be guilty of trying to make more of it than it was.

Four hundred and sixty-four is what we showed, and keep in mind that this 464 number is a combination of deals that were cut, for lack of a better word, outside of court, and the Merit System Board decision. Today Admiral Engen said that there were 650 that were back into the system, so I will say that he is probably correct. To my knowledge there are somewhere in the neighborhood of 800 that still are with the Board or before the Board for a decision.

The point that I wanted to make out of all of that, and I think that has been missed in the past, is that these people—everybody that we talked to, I take great pain to talk to working controllers when I do travel around the country, there has been no problem when these people have gone back to work.

I guess that is the thing that amazes me. I am a little at a loss as to why there would be this reported objection to people coming back because in the facilities where they have returned, we haven't found any problem or any complaints. In fact, they have been welcomed because people say that now they are able to get out on spot leave. If there is somebody else working the sector alongside of you, you don't have one man up, and so forth.

Senator **Kassebaum**. One thing I would wonder about, it has now been about 3 years, I assume a fair number have found jobs elsewhere. Admiral Engen testified, did he not, that it would be about 3 to 6 months of training again.

Mr. **Eads**. I think the number he said today was 5 to 8, but the record shows that it takes about 3 to 4 months.

Senator **Kassebaum**. For retraining purposes. It would seem to me just a fact of life that a large number of the controllers would have found employment elsewhere, and that there wouldn't be that many who would have the number of years of service that you have, for instance, who would be out there wanting to go back.

Mr. **Eads**. It is a very valid point. In fact, we have just completed an internal survey, obviously there is a plus and a minus factor on the survey, but 60 percent of the people that we surveyed, dismissed controllers, said that they would not return. It was not necessarily with any animosity, it is just that they have gone on with their lives, and now they are doing other things. Quite frankly, they like the lifestyle better. There is 40 percent out there that probably would want to return.

It plays very well with this. I had a very brief conversation with former Secretary of Transportation Drew Lewis. The point that I made with him was that it would be a shame if the small group that would want to go back would also be acceptable to the FAA, yet no one has taken the stance or the next step to see if that would work out.

I would also like to add that Secretary Drew Lewis has pointed out to me that if the legal questions were satisfied, and I think that was accomplished last summer through the appropriations bill on the House side—if that question were answered, he would support the reinstatement of controllers because he felt that it was necessary and it would help the system.

I think that it speaks well for it, and if we can ever get past this myth, I think, of there being a problem if they go back, and face the reality, I think the question has been answered.

Senator **Kassebaum**. Thank you.

I don't have any further questions because I don't know what ground may have been covered while I have been gone, and I certainly don't want to ask you to stay any longer. I very much appreciate your coming today, and your contribution to this hearing.

Mr. **Eads**. If I may, I understand that there are still 200 before the Board, and not 800.

Senator **Kassebaum**. Thank you.

[Whereupon, at 6:20 p.m., the subcommittee adjourned.]

[The following information was subsequently received for the record:]

STATEMENT OF THE NATIONAL BUSINESS AIRCRAFT ASSOCIATION, INC.

Madam Chair: The National Business Aircraft Association, Inc., welcomes this opportunity to submit this statement for the record on the current Air Traffic Control (ATC) system in this country.

The National Business Aircraft Assocation (NBAA) represents business aviation in the United States. Business aviation accounts for more than 30% of all general aviation activity, providing on-call transportation to all of our nation's airports and linking with the rest of the nation many communities which enjoy dwindling or no air carrier service. NBAA's membership consists of more than 2,800 companies which own and operate aircraft of all sorts; turbojets, piston- and turbine-powered propellor-driven airplanes and helicopters to satisfy the day-to-day transportation demands which active, productive companies generate. Without our national business aircraft fleet supplying American business the efficient, on-demand air transportation it requires, many of our nation's smaller communities would be cut off from the mainstream of economic life, essentially unable to compete in our highly productive national economy.

To illustrate the relative contribution of business aviation to the economy, one must compare numbers of points served by both scheduled carriers and private operators. In 1960, the points served by certificated carriers reached its peak number of 575. In 1978, when airline deregulation took effect, the number of points had dwindled to 372. This year, only 250 points retain service by certificated airlines. By contrast, business aviation avails itself of many thousands of the 12,653 airports in the United States. Unfortunately, of this total less than half are equipped with paved runways and even fewer 4,842, have runway lights allowing night operations. The availability of these airports, coupled with the business aircraft, has brought new life to small communities as business has become increasingly able to avail itself of the raw materials, real estate and human resources available in greater supply in the less urbanized areas of the U.S. True, commercial air carriers, especially the rapidly growing segment known as regional airlines, provide scheduled service to the outlying areas and serve as feeders to the airlines through "hubs." However, incredible as it seems, twenty-five percent of all airline flights originate at just five airports: Atlanta's Hartsfield, Chicago's O'Hare, Los Angeles International, New York's Kennedy and Dallas-Fort Worth. Further, sixty-seven percent of all airline passengers in the U.S. move through just twenty-six airports. Obviously, the difference in what business travelers have and what they need to conduct business and expand economic opportunity is great. Further, the hub-and-spoke system of operations being adopted by carriers, while certainly more efficient and economical for airlines, adds immeasurably to frustration and delays for the average airline passengers as well as to travel and commute times. The business aircraft, flying direct from point A to point B, saves the traveler time, expense and frustration and spends less time in the air traffic control system than would be necessary if adhering to the routes and schedules adopted by airlines. Clearly, if business aviation did not exist, it would have to be invented to allow business to branch out from the urban and economic centers of our nation.

Thus, it is abundantly clear that business and general aviation have stepped in to fill the voids left in the wake of deregulation. General aviation, with the business aviation and air taxi segments in the forefront, of necessity has become the air lifelines to communities which have been abandoned by the air carriers. In a large number of cases only general aviation serves points with truly essential air service, a term whose meaning goes far beyond that so restrictively couched in the 1978 Deregulation Act. Clearly, as a result of the 1978 Act and decisions based thereon, more and more of the traveling public are dependent upon business and general aviation. Therefore, the supposition that depriving general aviation of access to airports and the airspace will help further the cause of airline deregulation and promote competition beneficial to the flying public is incorrect.

The Airline Deregulation Act of 1978 has achieved most of its objectives, not only through price and service competition among carriers, but also through the greatest expansion of non-commercial air transportation in history. The idea that this expansion satisfies the objectives of the 1978 Act may be difficult for many to accept, but in considering such an equation, two things must be paramount. First, in a truly competitive air transportation system, the client or customer is free to choose. Second, the most favorable choice might very well be non-commercial transportation. Increasingly, for many it has been non-commercial aviation and the quality rightly sought by Congress has been realized in the variety of aircraft tailored to customers demand and the multitude of destinations available to the traveling public through the use of private aircraft.

Allow us to now direct our attention to the air transportation system in this nation and the needs of its air traffic control and airport systems to be able to support the goals Congress has set forth.

Much has been said in recent months about the state of the air traffic control system. Some of it has been true, some of it has been simply inaccurate. Having the benefit of submitting this statement after the actual hearing, we are in a somewhat unique position relative to those who testified on October 1 and to members of the Subcommittee. Thus, we hope to be able to offer some degree of perspective as a result of time and distance from the actual hearing, as well as to provide further detail to some points that were left unclear.

This Association is extremely concerned with the state of the air transportation system in this country, of which the air traffic control system is a major part. The air transportation system includes airports and we do not feel any discussion of the status of the ATC system can reasonably take place without considering how airports fit into the equation.

Our main concern derives from two phenomena. One is the fundamental lack of understanding of aviation on the part of many policymakers. The other is the mindset which has developed within many institutions, including the FAA, and individuals that growth in the aviation industry must be constrained, artificially, and that some classes of operators in the air transportation system are more equal than others.

To suggest that all is well in the air transportation system and the ATC system would border on insult. However, things are as well as can be expected in these areas when the years of benign neglect are considered.

In 1970, a major piece of legislation was enacted. The Airport and Airway Development Act of 1970 sought to "provide for the expansion and improvement of the Nation's airport and airway system." We would submit that Congress' declaration of policy, "that substantial expansion and improvement of the airport and airway system is required to meet the demands of interstate commerce * * *" has not been realized and that the current problems besetting the industry and all who use the air transportation system are the result of failures to live up to the promise of that landmark legislation. Indeed, allow us to quote from a specific FAA document:

"Long-run solutions are dependent upon the modernization and expansion of the airways system and airport development. Legislation is required to provide a sound financial framework within which these programs could move forward.

"In the meantime, the public interest in efficient, convenient, and economical air transportation requires more effective use of airport and airspace capacity. The authority of the FAA to regulate aircraft operations to reduce congestion is clear * * * it is anticipated that, subject to the approval of the Civil Aeronautics Board, the air carriers can arrive voluntarily at decisions to reduce schedules so as not to exceed the total allocation established . . . in the interest of efficient airspace utilization. Discussions among the airlines are proceeding pursuant to a CAB order, and an agreement will be in force on the effective date * * *"

The quote above comes from the Federal Register, page 17896, of December 3, 1968 and is taken from the preamble to the adoption of the amendments to Federal Air Regulation Part 93, which imposed special limitations on certain high density airports. That was sixteen years ago. It is clear that the "modernization and expansion of the airways system and airport development" has not yet been accomplished. Perhaps, as a continually evolving process, it never finally will be. However, that language and a memory of the experiences of the past summer aptly demonstrate that nothing has been learned from the experiences of the past.

Much has been made recently of the supposedly increasing number of near midair collisions, or near-misses, as they are sometime called. Most of these reports conveniently overlook the fact that the numbers of such reports are down when compared with 1980, when 568 were reported. Last year, a total of 286 were reported and, for the first eight months of 1984, 178 have been reported. Extrapolating that last number, we would expect 267 reports of near mid-air collisions to be reported through the end of this year. That would come in a time when air traffic is at an all-time high, when more aircraft than ever before are using the airspace and when more people than ever are travelling by air.

One other point must be made regarding near mid-air collisions—there are no criteria for reporting such encounters. What might be considered a near mid-air by one pilot might be considered par for the course by another. Indeed, some pilots have been known to completely overreact upon sighting another aircraft and initiate evasive action to the extent that both aircraft were endangered only because the evasive action put them on a collision course where one did not exist before.

This Association has long supported the concept of a collision avoidance device to augment the practice of visual separation. As new technology becomes available, both on the ground and in the cockpit, we shall eventually have it and use it. However, nothing will ever replace good scanning techniques and a clean windshield as a means of seeing and avoiding other aircraft. Indeed, some of the more notable mid-air collisions have occurred when both aircraft were using the separation services of the air traffic control system.

Much has also been made of the delays encountered by all operators in the airspace during the past few months. All have had the opportunity to hear others' suggestions and to develop their own. What very few individuals have done though is question whether delays are per se undesirable. What many fail to realize is that when demand for a service exceeds capacity, delay will occur. This is true of the supermarket check-out stand, Shirley Highway and Newark International Airport. In many of these cases, the solution has been to develop additional resources—more cashiers, for instance, or express lanes. Only in the arena of air transportation have "flow control" and "demand management" become the mindset, institutionalizing the idea of delays, inconvenience and artificial constraints on the normal workings of the marketplace. This mindset is one which institutionalizes mechanisms to smooth the peaks in demand; one which creates a new "scarce" resource ripe for government allocation and then discriminates arbitrarily in that allocation, one which seeks to regulate aircraft operations to insure that there will be no ground delay to impact on ground facilities; a mindset which we greatly deplore as dissipative of energy and assets in pursuit of irrational government regulation.

We strongly object to any further expansion of the allocation mentality and therefore urge the immediate rejection of those types of proposals. Instead of trying to cure delay through limitations on airport access, FAA should be given the resources and a clear mandate to devote its full energy to improving the capacity of all our nation's airports and its airspace system. Indeed, it is of increasing concern to us that it appears the air transportation system in this country is governed by a policy which sets limits on the role of the FAA and the Federal government. This is clearly contrary to the needs of the users who have the greatest stake and who pay the taxes to support the system.

We strongly urge a break with the thinking of the past and a true rededication to the principle that the airports and airspace must be developed to fulfill the demands placed upon them by the nation's air travellers.

In other words, execute bold plans. For openers we urge immediate action on the following list of things that can be done by the FAA.

1. Discard structured staffing in the air traffic control hierarchy.
2. Provide the information required and encourage the charting of saturated en route sectors (red sectors).
3. Adjust as necessary en route sectors to accommodate to the demands.
4. Bring Air Route Traffic Control Centers, Radar Approach Controls and Air Traffic Control Towers under direct line authority to the Administrator through the Director of the Air Traffic Service.
5. Standardize system en route separation criteria.
6. Develop standards and implement simultaneous instrument approaches to intersecting runways.
7. Provide information on flow control restrictions (flow control messages) to airway system users.
8. Stop "small town sheriff" mentality in the Quality Assurance Program (QAP).

Additionally, Congress has the premiere role to play in providing solutions. Congress should:

1. Provide funds to:

A. Increase the controller workforce by continuing high rates of training.

B. Retain existing controllers, including those retired or soon to retire.

C. Employ, as feasible, part-time controllers.

D. If additional, more accurate radar is required for approval of simultaneous approaches to closely-spaced runways, provide funds to allow for immediate procurement.

2. Most importantly, provide uninterrupted full funding for the National Airspace System Plan.

As this is written, Congress has approved and sent to the President a Continuing Resolution calling for $1.370 billion in funding for Facilities and Equipment and $925 million for airport improvement. While these levels are, gratefully, higher than last year's woefully inadequate funding, they are still less than adequate to provide for the size and type of development so sorely needed and for which all users are paying. We hope that, as the furor of the past few months subsides and truly constructive approaches to these problems are developed, Congress will see fit to put to work the $6.149 billion which reposed in the Airport and Airways Trust Fund as of July 31, 1984, according to the Treasury Department. If so, then the following, quoted from Senator Howard Baker's insertion into the Congressional Record of September 5, 1984, of the 1984 platform of the Republican Party, will be proven accurate.

"Our National Airspace Plan is revolutionizing air traffic control. It will improve flight safety and double the nation's flight capacity, providing better air service and stimulating economic growth."

Thank you for the opportunity to present this statement.

○